

AUTUMN 2002

Harvard Medical

ALUMNI BULLETIN

Doctors must learn to translate between
disease, which is what's in a textbook,
and illness, which is the experience of
a human being in trouble. —DANIEL FEDERMAN, CLASS DAY SPEAKER





LUMINARY

1927

Francis Peabody '07, left, pictured with George Minot '12, was dying of cancer when he gave his famous address, "The Care of the Patient," whose concluding epigram is well known to generations of HMS alumni: "The secret of the care of the patient is in caring for the patient." Peabody died 75 years ago this fall, at the age of 45, but his legacies in patient care and medical research live on.

CONTENTS



DEPARTMENTS

Letters.....	3
Pulse.....	5
Community service for first years; hospital rankings; the Class of 2006; the Aesculapian Club's 100th anniversary; the State of the School address	
Bookmark.....	8
A review by Elissa Ely of <i>Aging Well: Surprising Guideposts to a Happier Life from the Landmark Harvard Study of Adult Development</i>	
Bookshelf.....	9
Benchmarks.....	10
Avoiding the risks of amniocentesis; possible carbohydrate culprits of rheumatoid arthritis	
Alumnus Profile.....	54
Rev. Ray Hammond creates a ministry of healing by Susan Cassidy	
Class Notes.....	56
Obituaries.....	59
Endnotes.....	64
A pediatrician celebrates life by making funerary urns. by Thomas Adams	

CLASS DAY

The Healing Art.....	12
by MICHAEL HIGGINS	
Translations.....	16
by DANIEL D. FEDERMAN	
The Wounded Surgeon.....	18
by TREVOR D. BURT	
Stress Tests.....	20
by WILLIAM MEEHAN III	

ALUMNI DAY

Doctoring Evil.....	22
The Ward Effort.....	24
by GARY R. FLEISHER	
Tracking a Killer.....	28
by MORTON N. SWARTZ	
Weapons of Mass Instruction.....	32
by DAVID M. BELL	
Reckoning with the Dead.....	34
by FREDERICK R. BIEBER	

REPORT FROM THE DEAN

Mission Possible.....	38
by JOSEPH B. MARTIN	

REUNION REPORTS

Reports from the Classes.....	42
-------------------------------	----



In This Issue

COMMENCEMENT AND THE CLASS REUNIONS THIS YEAR WERE CELEBRATIONS as always. But outside our tents ancient plagues were threatening to crash the party. Anthrax, plague, and smallpox—diseases once politely acknowledged in the curriculum as biologically interesting but clinically on the way out—have acquired a new and sinister cachet. The vectors of these deadly illnesses, thanks to modernization, globalization, and the illusion of eradication—not to mention bioterrorism—could prove far more devastating than blankets impregnated with smallpox, a form of biological warfare allegedly used in this region around the time Harvard Medical School was founded. Speakers at Alumni Day raised the eerie prospect that the fiction of Michael Crichton '69 could prove to be as prophetic as it has been entertaining. Their remarks are featured in this issue of the *Bulletin*.

The conversation on Class Day is also reported here, as is our custom. It accentuated the positive, as befits this annual occasion, emphasizing that medicine is not only scientific, but also compassionate, caring, and dedicated to a purpose higher than the repayment of loans and the eventual purchase of a decent property and a beguiling vehicle. Here too, there were allusions to the hazards, if not the barbarians, outside the gates. Daniel Federman '53, in his reflections on the role of meaning in medicine, cited as a cautionary tale the experience of a physician who flunked the critical test of billable units in her effort to deliver what she regarded as standard, not even particularly elaborate, care. It was a vivid illustration of the way physicians are being squeezed between lofty values and niggling managers. At the end of his comments, Dean Federman expressed the hope that graduates would take the social and political actions needed to liberate medical care from an ethically bankrupt view of how it is to be allocated.

Politics is rarely brought into the open at these exercises. Like sex and religion, it is traditionally not regarded as a topic for polite conversation. The idea that medicine can hold itself outside the political arena (or pretend to do so, as is more often the case) is getting ever harder to imagine. That politics has everything to do with the reach and success of medical care is as true now as it was when Richard Cabot, Class of 1892, acknowledged the role of wealth in creating a favorable prognosis for tuberculosis.

We could, no doubt, continue to ban politics (along with sex and religion) from our Class Day and Alumni Day events. We could certainly talk about the weather. The weather is, however, getting both thermally and politically hotter. So that option may not last for long.

William Ira Bennett

EDITOR IN CHIEF
William Ira Bennett '68

EDITOR
Paula Brewer Byron

ASSOCIATE EDITOR
Beverly Ballaro, PhD

ASSISTANT EDITOR
Susan Cassidy

BOOK REVIEW EDITOR
Elissa Ely '88

EDITORIAL BOARD
JudyAnn Bigby '78
Rafael Campo '92
Elissa Ely '88
Atul Gawande '94
Robert M. Goldwyn '96
Perri Klass '86
Victoria McEvoy '75
James J. O'Connell '82
Nancy E. Oriol '79
Eleanor Shore '55
John D. Stoeckle '47

DESIGN DIRECTOR
Laura McFadden

ASSOCIATION OFFICERS
Mitchell T. Rabkin '55, president
Eve J. Higginbotham '79, president elect 1
Joseph K. Hurd, Jr. '64, president elect 2
Paula A. Johnson '85, vice president
Phyllis I. Gardner '76, secretary
Cecil H. Coggins '58, treasurer

COUNCILLORS
Nancy C. Andrews '87
Rafael Campo '92
Donnella S. Green '99
Barbara J. McNeil '66
Laurence J. Ronan '87
Mark L. Rosenberg '72
Kenneth I. Shine '61
Francis C. Wood, Jr. '54
Kathryn A. Zufall-Larson '75

DIRECTOR OF ALUMNI RELATIONS
Daniel D. Federman '53

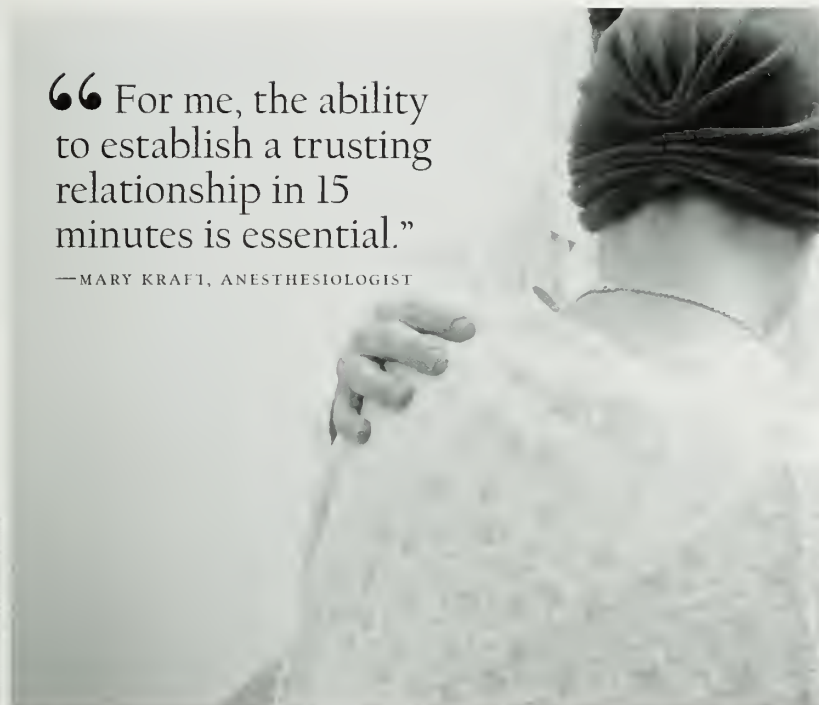
ASSISTANT DEAN FOR ALUMNI
AFFAIRS AND SPECIAL PROJECTS
Nora N. Necessian, PhD

REPRESENTATIVE TO THE
HARVARD ALUMNI ASSOCIATION
Joseph K. Hurd '64

The *Harvard Medical Alumni Bulletin* is published quarterly at 25 Shattuck Street, Boston, MA 02115 © by the Harvard Medical Alumni Association.
Phone: (617) 384 8900 • Fax: (617) 384 8901
Email: bulletin@hms.harvard.edu
Third class postage paid at Boston, Massachusetts. Postmaster, send form 3579 to 25 Shattuck Street, Boston, MA 02115
ISSN 0191 7757 • Printed in the U.S.A.

“For me, the ability to establish a trusting relationship in 15 minutes is essential.”

—MARY KRAFI, ANESTHESIOLOGIST



The Nature of Nurturing

As a surgeon with a special interest in medical malpractice (I have been a professional expert and reviewer in about 2,000 such alleged cases and have for many years conducted lectures and seminars on this issue for thousands of physicians in New York State), I was delighted with the Winter *Bulletin's* articles on difficult doctor/patient relationships, especially Dr. Campo's insightful discussion of empathy.

Because 80 percent of medical malpractice cases involve failures of communication, for the past four years, my colleagues and I have focused our seminars entirely on this process, with special emphasis on what has proven to be the physician's Achilles' heel in communicating with patients: a lack of compassion and empathy.

Like Dr. Campo, I, too, have been challenged by physicians in our audiences who believe that empathy is inborn and cannot be learned. This is clearly untrue. A person who is totally devoid of empathy

is a sociopath who should not be involved with patient care in the first place. But although we are naturally compassionate, many of us become hardened by our experiences as medical students and house officers, in which an attitude of scientific detachment is encouraged and any display of emotion is likely to elicit smirks and jeers from our colleagues.

When physicians complain that it is “just not in their nature to be Dr. Marcus Welby,” I point out that it was not in his nature either; he was merely an actor who had learned techniques that enabled him to appear to be a compassionate physician. Certainly, as compassionate physicians to start with, we ought to be able to do at least as well as Robert Young in this regard, but we, too, must learn and practice these same techniques if we are to master them.

Physicians who find it difficult to show compassion and claim that using techniques to express empathy is hypocritical should accept hypocrisy as “the tribute that vice pays to virtue.” Certainly

a little of it is not to be decried if it helps our patients to get well.

For clinicians interested in this subject, the courses and seminars offered by the Bayer Institute for Health Care Communication, located in West Haven, Connecticut, are extremely valuable, and I would highly recommend that those physicians who would like to teach this complex process to other health care professionals undergo the training required to become Bayer-certified instructors.

STEPHEN L. DECKOFF '47
NEW YORK, NEW YORK

Baggage Check

Speaking with the wisdom of one who has practiced medicine for more than 25 years, I was left dismayed and frustrated by the articles in the Winter 2002 issue on “Bad Chemistry” between doctors and patients.

The first thing that dismayed me was the last sentence of the opening essay. What hubris to assume that one goal of a physician is to be “perfect”? I'm not sure I know any colleague who has this goal. Knowledgeable, clinically astute, kind, and compassionate are the adjectives that my colleagues and I hope will be used to describe us.

Next, I was frustrated that the only negative emotion explored in some detail was anger. As human beings with psychosocial histories, we inevitably bring some “baggage” to every patient encounter. There will always be some patients whom we don't like (and I'm not referring to those who are physically threatening), because there is something about them that reminds us of a trying person in our lives. The physician who strives for rapport with every patient needs to spend time in self-examination to clearly identify those types. Then he or she can recognize them early in the encounter and remind him- or herself that the person sitting in the room is not a parent, dean, or ex-spouse.

There are also those patients who frustrate us with their seeming inability

THE LATEST STANZA

I had a powerful experience during my 50th reunion at HMS. I do not have a ready explanation, but I did what I have usually done in the past few years when confronted by intense emotion—I wrote a poem. I suspect that some of my classmates may have shared my feelings.

JOSEPH A. RINALDO, JR. '52
SAN DIEGO, CALIFORNIA

REUNION, JUNE 7, 2002

*We huddled beneath the windblown tent,
Sheltered from the rain but not the cold.*

*The erudite drumming to
the drops dripping
From the unprotected edges of canvas,
And the dissonant voices
Resonating to my shivering skin,
Swept me into reverie.*

*Who are these men I knew,
Before our Diaspora
Spread us to our respective places,
To learn the medical rituals
That would define our future?*

*It was easier at the twenty-fifth
When memories were less crowded,
And optimism abounded.
Skills had long been honed
to exquisite sharpness,
While the flow of energy was still strong*

*Now, at the fiftieth,
Fixed in the Formalin of other lives,
Reconnecting tenuously,
We remembered those who had gone.
What would the future bring?*

*Small talk at lunch and the "Now Smile"
Of the clicking camera
interrupted my musing.
The dry sky was still gray on the
walk to the trolley.
At the Northeastern University stop,
A bevy of bright faces came aboard.
Their energy and joy cleared
my cloudy mind.*

to follow our directions or comply with treatment regimens. In short, they seem to undermine our authority, and that makes us angry. It behooves the caring physician to understand that for some patients, life was chaotic before the onset of illness, and even the most benign diagnosis can make life totally overwhelming for them. When one is overwhelmed, one cannot make sense or meaning out of anything, even with the best intentions.

I practice anesthesia. For me, the ability to establish a trusting relationship in 15 minutes is essential. My relationships with patients and my professional satisfaction increased exponentially after I realized that the most important attribute I brought into the room was my sincere desire as a human to find that same spark of life in my patient.

MARY KRAFT, MD
BOSTON, MASSACHUSETTS

The Road Best Traveled

When I was a student at HMS, I lived in Vanderbilt Hall, which had a room dedicated to Dr. Charles Best, widely

known for his role in discovering insulin. I now live in Maine, in the most beautiful place in the world, where you can watch the sunrise across the bay at Campobello. Down the road are the Wabanaki or Waponahki (depending on whether you are a member of the tribe), or People of the Dawn—my good friends—and 12 miles away is Pembroke, where Dr. Best grew up.

I met Dr. Best several times, because he used to spend part of the summer in Pembroke. My wife founded and edited a local paper, *The Quoddy Tides*, and Dr. Best once wrote her a note saying how much he liked it.

Dr. Best's father was a general practitioner in Pembroke. Several local people have stories about him driving his sleigh as far as he could in winter, then continuing on by snowshoe after turning his team around. The horses always found their way back to the barn. I have some empathy with Dr. Best's father, having made many house calls late at night in snowstorms and down wintry country roads.

ROWLAND B. FRENCH '43B
EASTPORT, MAINE



PHOTO: CHARLES E. ROTKIN/CORBIS

The Bulletin welcomes letters to the editor. Please send letters by mail (Harvard Medical Alumni Bulletin, 25 Shattuck Street, Boston, Massachusetts 02115); fax (617-384-8901); or email (bulletin@hms.harvard.edu). Letters may be edited for length or clarity.



CONSTRUCTIVE SITE: Now in its fourth year, the First-year Urban Neighborhood Campaign (FUNC) took place the week before the opening of school, enabling HMS students to volunteer at community service projects throughout Boston. Above, FUNC co-coordinator Walter Bethune '05 builds bridges with a youngster in the Chinatown After School Program.

Good Citations

HARVARD TEACHING HOSPITALS AGAIN FARED WELL LAST SUMMER IN THE *U.S. News and World Report* annual rankings of the nation's top hospitals. Once again, Massachusetts General Hospital and Brigham and Women's Hospital made the magazine's "honor roll," a list of medical centers that scored well in at least six of 17 specialties and "merit acclaim for impressive quality and breadth of expertise." They ranked third and tenth, respectively.

MGH was number 19 in oncology, four in gastroenterology, four in geriatrics, seven in gynecology, three in cardiology, two in endocrinology, one in nephrology, two in neurology, three in orthopedics, 14 in pediatrics, one in psychiatry, five in pulmonary disease, seven in rheumatology, and seven in urology.

Brigham and Women's came in at 11 in gastroenterology, 19 in geriatrics, three in gynecology, four in cardiology, four in endocrinology, two in nephrology, 13 in neurology, nine in orthopedics, 12 in pulmonary disease, eight in rheumatology, and 31 in urology. Beth Israel Deaconess Medical Center ranked number 19 in gastroenterology, 14 in geriatrics, seven in endocrinology, and 31 in nephrology.

Massachusetts Eye and Ear Infirmary was number three in otolaryngology and number four in ophthalmology. Children's Hospital ranked number one in pediatrics, for the 13th year in a row. The Dana-Farber Cancer Institute placed number four in oncology. McLean Hospital ranked number five in psychiatry. And Spaulding Rehabilitation Hospital came in at number 11 in rehabilitation. ■

The Class of 2006

IN EACH OF THE STUDENT SOCIETIES, THE incoming Class of 2006 took part in the traditional White Coat ceremony, the annual rite of passage in which young future physicians formally dress the part as they set out on the path of their education as doctors.

The entering class consists of 72 men and 94 women. The number of minority students remains strong, with 38 Asians and Pacific Islanders, 21 African Americans, 11 Mexican Americans, four Native Americans, and two Puerto Ricans. The youngest entering medical student is 21 years old, the oldest is 35, and the median age is 23.

Thirty-four states are represented in the class. California leads with 37 students. New York is next, with 17, followed by Massachusetts with 14. There are six international students, including two from Canada, two from Botswana, and one each from Jamaica and Turkey.

About 20 percent of the class (33 students) graduated from Harvard College. The next highest numbers came from Stanford (11 students), MIT (eight students), Princeton (eight students), and Yale (seven students). Science majors make up 71 percent of the class, while seven percent majored in humanities and 13 percent in social sciences. Nine percent graduated with double majors. ■



FULL MEDICAL JACKET: Newly entering HMS students donned traditional gowns in the annual White Coat ceremony.



CLUB MED: The cast of "Hearts and Flowers, or Annie Doesn't Live Here Any More," an Aesculapian Club show, in 1934.

One Hundred Years of Attitude

THE AESCULAPIAN CLUB, FOUNDED IN 1902, IS THE OLDEST EXTANT social club at Harvard Medical School, and one of the oldest such clubs at any American medical school. An exhibit celebrating the first 100 years of the club's history is now on display on the first floor of the Countway Library of Medicine.

The club's dual purpose—to encourage sociability and an active interest in the affairs of HMS—may have been the secret to its success. In addition to sponsoring dinners, lectures, concerts, and sometimes quite Rabelaisian theatrical entertainments, the club has worked to aid the School and its students.

The club raised funds to construct and furnish Vanderbilt Hall, established—and still supports—the Aesculapian Room of the Countway Library, and funded indoor landscaping. The club also supports an emergency fund for medical students, gives each incoming student his or her first traditional white coat, and con-

tributes to such student activities as the *Aesculapiad*, the HMS yearbook, and the famous—or infamous—Second Year Show.

The first club show debuted in 1907. Titles and character names containing puns, satirical songs, and comic impersonations of well-known faculty and other medical leaders rapidly became traditional elements of the entertainments. The titles have ranged from "Cramalot" to "Skits-O-Phrenia," "The Right Stiff," "Great Expectorations," and "Thoracic Park."

One of the Second Year Shows inspired Lewis Thomas '37 to pen "Allen Street," perhaps his first published literary effort. This lyrical poem, printed in the *Aesculapiad* of that year, includes such rhymes as "valises" and "diseases." The full text of the poem and a selection of show memorabilia from 1907 to 2002, as well as Aesculapian Club documents and photographs from the HMS archives, will be on display through mid-March. ■

The State of the School

IN HIS FIFTH ANNUAL STATE OF the School address in September, Dean Joseph Martin summed up the School's progress toward the four top priorities he set after arriving in 1997: strengthening basic science research; establishing closer bonds with the teaching hospitals; reinvigorating educational programs; and increasing diversity among the faculty, students, and staff.

Martin described the opportunities presented by new collaborations within the Harvard medical community and by next year's opening of the new research building. He invited the audience to imagine how the community can contribute to biomedicine's second major milestone of the 21st century following the final mapping of the human genome—whatever that next accomplishment turns out to be.

The dean then listed major strides the School has made to fortify its research programs and boost collaboration. Eight new initiatives are under way, including inter-institutional efforts such as the Dana-Farber/Harvard Cancer Center and the Harvard Center for Neurodegeneration and Repair. HMS has received several major federal awards, among them a \$44 million contract for the new Molecular Target Laboratory and a \$15 million Department of Energy grant for environmental and energy uses of microbes.

"We've made a number of stellar recruits," he continued. "We've appointed three new department chairs. We will have 130,000 square feet of space available for Quad recruits and for new program initiatives."

Martin welcomed several people who are new to the School or are taking on new roles: Edward Harlow, chair of the Department of Biological Chemistry and Molecular Pharmacology, will oversee

"big picture planning functions" in the newly created position of dean for research. Gary Thompson has been hired as associate dean for research compliance and Deborah Kuhn as associate dean for planning and facilities. Joan Reede has been promoted to the new position of dean for diversity and community partnership. Among notable faculty moves, Stephen Harrison will bring his laboratory from Cambridge to develop a major new initiative in structural biology, and health economist Thomas McGuire joined the Department of Health Care Policy.

A key development in medical education has been the creation of the Academy, Martin said. The Academy, which now numbers 141 members, has already funded more than 50 projects, and sponsors two fellowship programs for junior faculty.

In addition, he said, "two 'Blue Sky' committees have worked over the last year to look very seriously at our medical education program." While the committees found much to praise, they also identified problems demanding attention, including lack of faculty time to teach and to mentor, marginalization of students in the clinical setting, and a dearth of opportunities for students to observe the natural progression of disease.

Turning to diversity, Martin reported that HMS continues its excellent recent track record for attracting diverse students but has made scant progress toward increasing faculty diversity, particularly at the senior level. A September meeting with major hospital CEOs focused on mounting a high-level effort to recruit senior faculty from underrepresented minorities.

Martin predicted that "the spirit of that meeting will create a synergy that will lead us to some major new efforts" to improve diversity. ■



DEAN JOSEPH MARTIN

THE SCHOTT LETTER

The nation's most unique investment letter, written & edited by John Schott, M.D. HMS '66

"The highly regarded Schott Letter helps investors cope with emotional hang-ups that make for mistakes in the stock market."

Forbes, February 1996

In 1986 Dr. Schott recommended the purchase of Berkshire Hathaway, will you be a reader when he finds the next Berkshire Hathaway?

24% average returns for 12 years

THE SCHOTT LETTER
120 CENTRE STREET
DOVER, MA 02050

\$110.00 for 12 issues
MC VISA

1 (800) 797-9678



Carpet Diem

A Rug for Everyday & Every Mood

From Antique Orientals to Contemporary, and Everything in Between

DECOR INTERNATIONAL

141 Newbury Street
Boston, MA 02116

617-262-1529

Validated Parking

BEST OF BOSTON RECIPIENT

Aging Well

Surprising Guideposts to a Happier Life from the Landmark Harvard Study of Adult Development
by George E. Vaillant '59 (Little, Brown and Company, 2002)

I WISH YOU HAD KNOWN MY GRANDMOTHER. SHE BEGAN MOST sentences, all 56 wise and conversational inches of her, with the same certain words, said in tones she staked her life on: "But darling, our Rebbi says..." When the Rebbi in eternal quotation was found in the arms of a married congregant, Grandma Becky did not break pace. "So?" she said, 89 years old and unbowed. "Believe me, a better one's ahead."

It matters to know that someone can go successfully—in this case, zestfully—into the complicated dark night. For those without the blessed memory of Grandma Becky, a book like *Aging Well*, by George Vaillant '59, may seem to serve. Overachievers among us—see in dictionary under "HMS alumni"—are probably deep into preparation for aging well: finishing triathlons, adeptly managing complex relationships, donating to future generations, and seeking spiritual wisdom in leftover moments. Still, there is always something to learn. For three decades, Dr. Vaillant has been up to his elbows in the longest prospective study of aging in the world: three cohorts with more than 800 members (including a set of former Harvard undergraduates) followed forward for 50 to 80 years. Since their first medical, social, and psychological evaluations, they have answered intimate questionnaires every two years, released medical records every five years, and been interviewed extensively every 15.

The Harvard Study of Adult Development has always been as interested in health as in pathology. Twenty-five years ago, Dr. Vaillant's book *Adaptation to Life* used its findings in formula-breaking fashion to identify psychological defenses and stages of adulthood. Dr. Vaillant begins this sequel with a promise of further results: "significant reliable data...tell us what successful aging is and how it can be achieved." It would not surprise Grandma Becky to learn that no creams or scalpels are involved.

According to the lives of now-elderly study members, we have a remarkable capacity to create ourselves despite genetics and scarring childhood. Life, like the liver, can regenerate. This is cheerful news, even more so when we learn that what has gone right along the way is more predictive of future health and happiness than what has gone wrong; miserable and chaotic upbringings, for instance, "become less important with time," and healthy aging is unrelated to cholesterol levels or stress.

But now, the rest of the news. Successful aging takes tolerance, humor, equanimity, stoicism, high morale, intimacy, the capacity for play, weight control, alcohol control, creativity, lifelong learning, gratitude, forgiveness, empathy, utility, hope, and sustenance from the past. A good marriage is important. Education and a social network help. Tolerating physical dependence helps, too. And don't forget that you can be ill without feeling sick.

All this, says Dr. Vaillant, requires the mastery of three life stages: Generativity (caring for those directly below us, since "biology flows downhill"); Keeper of the Meaning (a more global altruism targeted toward generations yet unborn); and Integrity. But even approaching these tasks requires something else: a mature set of psychological defenses that overreach our cramped competitive selves—altruism instead of self-interest, empathy instead of narcissism, sublimation instead of acting out. Only in these ways can the personality grow even though the person may seem fixed.

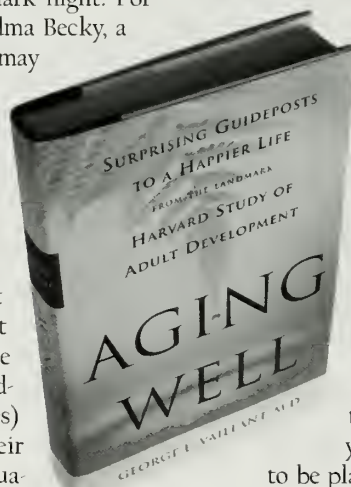
Perhaps this abundance of requirements causes the competitive reader pangs of anxiety. Story after story, hundreds of pages of them, attempt to reassure. But eventually the stories become a problem. They are too clear. Each pseudonym Dr. Vaillant chooses has a simple destiny: Susan Wellcome (excellent aging), Bill Loman (sad ending), Gwendolyn Havisham ("selfish in all the wrong ways"), Richard Lucky (self-explanatory), Alfred Paine (ditto), Zelda Maus (can you guess?). Although these names are meant

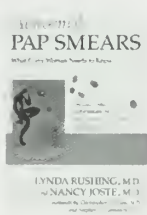
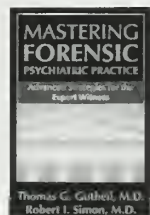
to be playful, their rigidity is a metaphor. Take your choice: you can age successfully...or fail. Choose Lucky or Paine, and at all costs avoid Maus.

But doesn't successful aging—which is not an oxymoron—have to do with ambiguity rather than simplicity, with learning to juggle our own combustible and opposing selves without causing an explosion? Doesn't it require failure and success, bitterness and pleasure, optimism and despair, unforgiveness and generosity, luck and pain at the same time, all wrapped into one crazy, struggling body?

Any readership for *Aging Well* will be seeking formulas, and it's hard to argue with half a century of meticulous data. But for those worried that they may never acquire the necessary qualities, what about this: life is an apprenticeship, and sometimes we are best trained by choosing complicated, flawed masters to apprentice ourselves to. Dr. Vaillant himself recommends something similar near the beginning of his book. "Old age is...a minefield," he writes. "If you see footprints leading to the other side, step in them." ■

Elissa Ely '88 is a lecturer on psychiatry at HMS.





Just and Lasting Change

When Communities Own Their Futures, by Daniel Taylor-Ide and Carl E. Taylor '41 (Johns Hopkins University Press, 2002)

Basing their recommendations on case studies and personal experiences, the authors propose a new approach to helping communities create healthier and cleaner living environments. Including examples from Appalachia to Tibet, they describe the SEED-SCALE model, which relies on a three-way partnership of initiatives from the community level, support from government agencies, and the ingenuity of technical experts.

A Doctor's Scrapbook

From Boston to Santa Monica—and Beyond, by Donald W. Bickley '34 (2002)

The author, an obstetrician and general practitioner for 67 years, shares stories from his long career—some challenging, some joyful, others sad—that reflect the progress of medical and surgical care. He advocates for adequate health care for all and the right of women to have access to abortion. He also addresses the damaging impact of HMOs.

The Heart of Addiction

by Lance Dodes '70 (HarperCollins Publishers, 2002)

Challenging the tenets of Alcoholics Anonymous and other 12-step programs, Dodes presents a new way of thinking

about the treatment of addictive behaviors such as alcoholism, gambling, and sexual addiction. He also dispels many prevailing myths of addiction, including the beliefs that one has to hit bottom before one can get well; that people with addictions are self-destructive; and that those with addictions have "addictive personalities."

Mastering Forensic Psychiatric Practice

Advanced Strategies for the Expert Witness, by Thomas G. Guthel '67 and Robert I. Simon (American Psychiatric Publishing, 2002)

The authors, leading forensic practitioners, examine the forensic practice from basics to trial. They discuss case preparation, fee agreements and finances, attorney-expert relations, cross-examination, and issues in forensic countertransferance. The book includes vignettes of real-life ethical dilemmas such as the misuse of research funds, sexual misconduct, and malpractice, and offers guidelines to working successfully as an expert witness.

The Trojan Women

A Play by Euripides, translated and adapted by Howard Rubenstein '57 (Granite Hills Press, 2002)

In his translation/adaptation of Euripides' drama, Rubenstein makes the play accessible to modern, non-scholarly audiences. The simple, straightforward text introduces readers to a classic story whose main theme remains relevant

today: the consequences of war for non-combatants and, ultimately, for entire civilizations.

Abnormal Pap Smears

What Every Woman Needs to Know, by Lynda Rushing '86 and Nancy Joste (Prometheus Books, 2001)

This comprehensive guide discusses the relationship of cervical cancer to infection by the sexually transmitted human papillomavirus as well as the meaning of different Pap smear diagnoses. The book also suggests lifestyle changes to reduce the risk of cervical precancers and cancer, and includes personal interviews that offer insight into the social and emotional effects that can result from an abnormal Pap smear.

The Fragile Alliance

An Orientation to Psychotherapy of the Adolescent, fifth edition, by John E. Meeks and William Bernet '67 (Krieger Publishing Company, 2001)

This new, streamlined edition of a classic text includes updated information and references. The authors define the basic facts and skills required for therapists who work with troubled adolescents. Although many of the fundamentals have not changed since the publication of the first edition 30 years ago, the book also includes discussion of such important contemporary issues as juvenile violence, adolescent sex offenders, and cognitive behavioral therapy.

Risky Business: Reducing the Need for Amniocentesis

THE AGE OF 35 HAS BEEN SET AS an arbitrary threshold for pregnant women to undergo amniocentesis to test for Down syndrome. Since the 1970s, when this age was set, up to four new blood tests have been added for women of all ages, improving the Down detection rate from 30 percent to 65 percent. Now, a growing body of controversial literature suggests that an additional test may help pregnant women avoid unnecessary amniocentesis and its attendant risk of pregnancy loss.

"You're not off the hook if you're under 35, but if you do amniocentesis based on age alone, you will lose one normal fetus for every Down syndrome fetus you pick up," says radiologist Beryl Benacerraf '76, HMS clinical professor of obstetrics, gynecology and reproductive biology at Brigham and Women's Hospital. "There has to be a better way."

To Benacerraf, a handful of like-minded maternal-fetal ultrasound specialists, and a growing number of older pregnant women, the better way means clarifying the risk of a genetic abnormality by adding a detailed ultrasound known as a genetic sonogram. In skilled hands, the method may pick up about 80 percent of Down syndrome fetuses.

"Amniocentesis for advanced maternal age alone is no longer appropriate," concludes a study in the October *Journal of Ultrasound Medicine* by senior author Benacerraf and her associates in the private, independent practice she founded 20 years ago. "We envision a practice paradigm in which risk assessment for Down syndrome is based on first- and second-trimester screening with biochemical markers and sonography to provide each patient with an individual risk assessment before deciding on whether to pursue invasive testing."

The study offers "likelihood ratios" to refine a woman's risk of a Down syndrome fetus based on 820 women evaluated by Benacerraf and her associates

from 1990 to 2000. The prospective study reviewed sonograms and karyotypes of 164 Down fetuses and 656 unaffected fetuses of women referred for advanced maternal age—over 35—or for results of serum triple screening tests. The scans were conducted between 15 and 20 weeks of pregnancy on women who had amniocentesis at the clinic at the time of the ultrasound.

An unusually thick nuchal fold—skin at the back of the neck—remained the

single strongest predictor of Down fetuses. Only about 25 percent of Down fetuses show the associated major health-threatening abnormalities, such as a hole between heart chambers. The nuchal fold was the first nonpathological ultrasound marker identified for Down syndrome, first reported by Benacerraf in 1985 and seen by her and others in about 40 to 50 percent of Down cases with a 1 percent false positive rate. Benacerraf has also identified most of the minor features of



"You're not off the hook if you're under 35, but if you do amniocentesis based on age alone, you will lose one normal fetus for every Down syndrome fetus you pick up. There has to be a better way."

Down and confirmed others, including a bright spot in the heart.

Not included in the October study is a new major Down marker that may be as sensitive and specific as a thick nuchal fold: a short or missing nose bone. The new marker will be reported in another study—by Bryann Bromley, HMS associate clinical professor of obstetrics, gynecology and reproductive biology at Massachusetts General Hospital; Benacerraf; and their HMS colleagues—in the December *Journal of Ultrasound Medicine*.

Individually, the minor, or “soft,” sonogram features are common enough in normal fetuses to make little or no difference in risk. Some of these features are ethnically variable, and detection accuracy may depend upon experienced sonographers. But having two or more minor markers can ramp up the risk for the small number of fetuses presenting such clusters.

For most women in the study, genetic sonograms reduced the risk. A normal scan yielded a likelihood ratio of 0.2, which translates clinically into an 80 percent reduction of the a priori risk. Even with this revised risk, women need to figure out how to use the information. “It’s not perfect,” Benacerraf says. “The decision-making is still there.”

“The bottom line is that genetic sonograms save lives,” says Anthony Vintzileos, a maternal-fetal medicine specialist at the New Jersey–Robert Wood Johnson Medical School. “We found three quarters of women in our unit at high risk will choose a genetic sonogram as the first option before deciding about amniocentesis. That’s how most women use the genetic sonogram today, and that’s how it should be used.” ■

Carol Cruzan Morton is a science writer for Focus.



Fingering a Possible Culprit in Rheumatoid Arthritis

ALTHOUGH THERE HAVE BEEN promising advances in treating the symptoms of rheumatoid arthritis, which

affects hundreds of millions of people worldwide, the cause of arthritic inflammation, swelling, and joint destruction has remained elusive. Now researchers at Brigham and Women's Hospital and HMS have for the first time associated carbohydrates present in the body with the disease. Julia Ying Wang, lead researcher on the study and an HMS assistant professor of medicine at Brigham and Women's Hospital, presented the findings at the American Chemical Society's national meeting in August.

The work began with Wang exploring whether a particular class of carbohydrates, glycosaminoglycans (GAGs), trigger an immune response in the body. GAGs are a major component of joint cartilage, joint fluid, connective tissue, and skin. In collaboration with Michael Raehrl, a research assistant in the HMS Department of Biological Chemistry and Molecular Pharmacology, she studied the effect of GAGs on mice. The animals experienced arthritic symptoms, including swelling, inflammation, and joint damage, about 30 days after injection with the carbohydrates.

“This study shows that rheumatoid arthritis may result from the body's

mishandling of its own carbohydrates that under normal circumstances would not be interpreted as a threat,” Wang says. “We found that inflammatory cells that accumulate in arthritic joints attach themselves directly to the glycosaminoglycans. This accumulation of cells leads to painful inflammation and swelling in the affected tissue.”

In addition to their research with mice, Wang and Raehrl also examined human tissue taken from arthritis patients. They discovered the same type of glycosaminoglycan-binding cells in the human tissue, the first direct demonstration of such cells in humans.

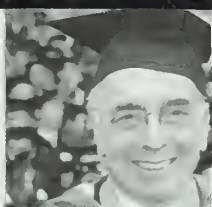
“The findings lead us to believe that rheumatoid arthritis may be an unusual immune response,” Wang says. Given the findings, Wang adds, subsequent research would most likely focus on the development of drugs aimed at stopping the growth, expansion, or adhesion of immune cells that react to glycosaminoglycans.

“This research is extremely promising,” says John Mekalanos, professor and chairman of microbiology and molecular genetics at HMS. “This study also suggests plausible models for how bacterial infection might trigger arthritis and how we might go about reversing this debilitating condition with new therapies.” ■



In an era of technological brilliance, Class Day speakers laud a vision of medicine based on empathy and clear communication with patients

THE



CLASS DAY 2002

T

by MICHAEL HIGGINS

HE RAIN COULDN'T DAMPEN THE SPIRITS OF HMS STUDENTS AND their families and friends on Class Day as they celebrated the culmination of at least four years of hard work. Daniel Federman '53, senior dean for alumni relations and clinical teaching at HMS, began his keynote address by insisting that the Class of 2002 had asked him to speak only because Bill Cosby was unavailable. He then summed up his vision for the future, describing it as a process of translation.

Federman preceeded four recommendations with a stage-setting anecdote about a translator at Massachusetts General Hospital who remarked that getting the right word is easy, but getting the right meaning to the person you are talking to is not. "We are the meaning makers," she had told Federman. He called on members of the graduating class to be meaning makers for their patients.

Trevor Burt, the first medical student speaker, used T.S. Eliot's notion of "the wounded surgeon" as a jumping off point to talk about the effects patients' illnesses have on their doctors and how physicians must take care of themselves in order to be effective healers. "That, to me, is Eliot's paradox: that with all of our training and technology, we cannot effectively touch the lives of others without somehow giving of our own lives," he said. "We cannot heal the wounds of others without being wounded ourselves."

HEALING ART

The other HMS student speaker, William Meehan, shared entries from his journal of the past four years, which touched on his trials and embarrassments as a medical student. He also thanked his parents for setting strong examples: "My two greatest role models as I start my career as a pediatrician are themselves not physicians. They are my parents, the epitome of self-sacrifice and diligence."

In June, HMS awarded medical degrees to 87 men and 67 women. Twenty percent of the graduates are underrepresented minorities, and 13.5 percent earned or are candidates for an additional degree; 34 degrees were awarded through the Harvard-MIT Division of Health Sciences and Technology. ■

Michael Higgins is the editorial assistant at Focus.

PRIZES &

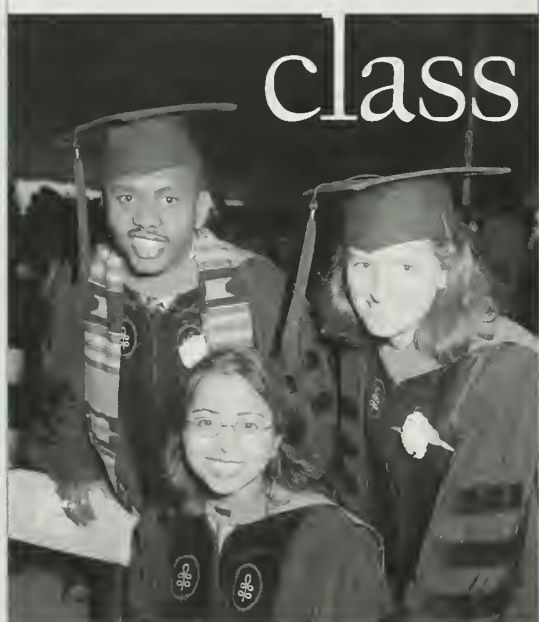
The following medical degree recipients graduated with honors or special awards:

David Allen Barbie, magna cum laude
Harold Lampart Biomedical Research Prize for the best paper reporting original research in the biomedical sciences: *Structural Organization and Regulation of Mammalian DNA Synthesis*

Mark Christopher Bisanzo
Society for Academic Emergency Medicine Excellence in Emergency Medicine Award to a senior medical student who has demonstrated excellence in emergency medicine

Trevor D. Burt, cum laude
Effects of Lipoproteins and Apolipoprotein E on Human Immunodeficiency Virus Infectivity

Brady Geronimo Specht Case
Rose Seegal Prize for the best paper on the relation of the medical profession to the community: *No Care for the Caregivers: Declining Health Insurance Coverage for Health Care Personnel and Their Children, 1988 to 1998*



oath

Class

I solemnly swear by all that I hold most sacred:

To My Patients:

I will commit myself to healing, whenever possible, and comforting always, with hope and honesty.

I will respect my patients' autonomy and dignity, in living and in dying.

I will honor and protect the knowledge I gain of my patients' lives.

I will explore all aspects of my patients' health, in good faith and without prejudice.

To My Colleagues:

I will teach the practice of medicine with kindness and with purpose.

I will strive to integrate the care of patients by collaborating respectfully and supportively with all members of the health care team.

I will uphold the example and wisdom of my mentors and build upon their teachings to advance our field.

To My Community:

I will improve the quality of care and support efforts to extend access to everyone.

I will be mindful of the social and environmental consequences of my work.

I will address the social problems that impact the health of patients.

I will not use my medical knowledge contrary to the laws of humanity.

To Myself:

I will acknowledge the limitations of my expertise, ask for help when needed, and face my mistakes honestly to prevent their recurrence.

I will pursue a true understanding of current medical knowledge as the boundaries of possibility continue to expand.

I will keep watch that my pride and curiosity serve my patients and not my ambition.

With the support of family and friends, peers and mentors, I pledge to fulfill this oath to the best of my ability and judgment, as I dedicate myself to the art and practice of medicine.

Dean

For over two thousand years, doctors have taken an oath to affirm a commitment to their profession. This oath has served as a contract with their community and as a tribute to their teachers. In this vein, the Class of 2002 has created an oath that draws upon elements from the oaths of their teachers—both recent and ancient. I now invite you, as a class, to share in this tradition and to articulate the ideals and principles that will guide you in the years ahead.

AWARDS

Nikhil K. Chanani, cum laude
Differential Effects of Amrinone and Milrinone upon Myocardial Inflammatory Signaling; The Gerald S. Foster Award in recognition of contributions to the student body by virtue of serving on a student-faculty committee including but not limited to the Committee on Admission

Toya Dean Clay
Wyeth-Ayerst Scholar in recognition of extraordinary accomplishment and potential to make significant contributions in the field of women's health

Alicia Marier Cunningham and Jennifer Rabke Verani
The Community Service Award to the senior who has done the most to exemplify and/or promote the spirit and practice of community service

Jahn Claude Elfar, Mark Azmy Ghaly, Ana-Claire Lew Meyer, Omar S. Sahagun, Calie Santana
Multiculturalism Award to the senior in each academic society who has done the most to exemplify and/or promote the spirit and practice of multiculturalism and diversity

Mark Azmy Ghaly
Robert H. Ebert Primary Care Achievement Award for excellence and outstanding accomplishments in the field of primary care medicine

Ravi Kiran Ghanta, cum laude
Ultra-high Resolution Optical Coherence Tomography

Jasan Ian Kaantz
James Tolbert Shipley Prize for excellence and accomplishment in research: *Frequent Fusion of JAZF1 and JAZ1 Genes in Endometrial Stromal Tumors*

Kapil Kumar, cum laude
Physiologic Mechanisms Underlying the Patent Anti-Fibrillatory Effects of Intrapericardial Nitroglycerin in the Ischemic Heart

Chienwei Eric Liao
James Tolbert Shipley Prize for excellence and accomplishment in research: *Genetic Analysis of Hematopoiesis in Zebrafish: Hemangioblast, Stem Cell, and Erythroid Differentiation in the Cloche, Bloodless, and Riesling Mutants*

Vaughn Lelan Mankey
Bemy Jelin '91 Prize to that senior who most demonstrates overall academic excellence with a career interest in pediatrics, oncology, international health, or psychiatry

Stephen Alexander Martin, cum laude
Richard C. Cabot Prize for the best paper on medical education or medical history: *"Life-Blood of Learning" and "Intractable Problem": Feedback in Undergraduate Medical Education*

René O. Sanchez Mejia, cum laude
Role of Apoptotic and Inflammatory Pathways in Neurodegenerative Diseases and Mast Cell Activation

Larissa Alejandra Meyer, cum laude
The Rationale of Irrationalities of Protocols in the Developing World: A Case Study of the WK-2000 Pediatric Acute Lymphoblastic Leukemia Protocol in a Tertiary Care Academic Hospital in Indonesia

Duy Thai Nguyen, cum laude
Regulation of Werner Syndrome Protein through Direct Interactions with a Subunit of Protein Kinase A and a Subunit of the COP9 Signosome Complex

Constantinos Pitris
magna cum laude
In situ Imaging Using Spectrally Encoded Confocal Microscopy

Tamim Qaum, cum laude
VEGF Initiates and Evans Blue Quantitates Blood-Retinal Barrier Breakdown in Early Diabetes

Christina Marie Rall
The Healthcare Foundation of New Jersey Humanism in Medicine Award to a graduating medical student who consistently demonstrates compassion and empathy in the delivery of care to patients

Giuseppe James Ravala
Dr. Sirgay Sanger Award for excellence and accomplishment in research, clinical investigation, or scholarship in psychiatry: *HIV, Disease Plague, Demoralization and "Burnout": Resident Experience of the Medical Profession in Nairobi, Kenya*



Rajat Rahatgi
Henry Asbury Christian Award for notable scholarship in studies or research: *The Interaction between N-WASP and the Arp2/3 Complex Links Cdc42-Dependent Signals to Actin Assembly*

Elizabeth Katherine Speliotes, cum laude
Fibroblast Growth Factor-2 (FGF-2) Expression Increases Following Focal Cerebral Infarction or Global Cerebral Ischemia; Kurt Isselbacher Prize to the senior demonstrating humanitarian values and dedication to science

Nii Ashitey Kwablah Tetteh, cum laude
Investigation of the Role Played by Phosphorylation of the FANCA and FANCD2 Proteins in the Fancani Anemia Pathway

Emily Jay Tsai, cum laude
Retroviral Transduction of IL2RG into CD34+ Cells from X-linked Severe Combined Immunodeficiency Patients Permits Humoral T and B Lymphocyte Development in Sheep Chimeras

Vasanth Vedantham, cum laude
The Religious Imagination of C.S. Lewis

Lynda Marie Vraaman
The New England Pediatric Society Prize to the senior who in the opinion of peers and faculty best exemplifies those qualities one looks for in a pediatrician

Patrick Louis Wagner
magna cum laude
Bacteriophage Control of Shiga Toxin Production and Release by Escherichia coli

Jahn Clifford Hyunsuk Yoon, cum laude
Regulation of Glucose Metabolism and Insulin Secretion in Pancreatic Islets by the Transcriptional Coactivator PGC-1; Lean Reznick Memorial Prize for excellence and accomplishment in research

TRANSLATIONS

by DANIEL D. FEDERMAN

ABOUT EIGHT YEARS AGO, SOME HMS STUDENTS PUT ON a program called "The Asian Medical Patient in Boston." A Cambodian patient came to the stage and said, "There is no problem with access to health care in Boston—as long as you can speak English." That galvanized my thinking. I realized that HMS should play a role in facilitating communication with patients who need urgent care and can't speak English. So I started a project with Nora Nercessian, associate dean for alumni affairs and special projects, in which we listed, with the help of local emergency room doctors,

the key questions you have to ask a new patient in the emergency room. And with these doctors and medical students, we put together a module of questioning that emergency room clinicians could use to take a review of symptoms. We then translated it into Spanish, Haitian Creole, and Cantonese.

On one side of the charts are the questions written in the patient's native language. If the patient can read, you just ask him or her to look at the questions. If the patient can't read, you ask the questions using the phonetic pronunciation provided in the patient's language. I've done it myself with Cantonese patients at the South Cove Health Center. It isn't the most gracious human exchange, but it works. Patients know what you're

asking, and you understand the answers because they're all "yes" or "no" questions.

We have asked the Robert Wood Johnson Foundation, which funded our work, for support to add more languages. This should improve connections with patients from a variety of immigrant groups.

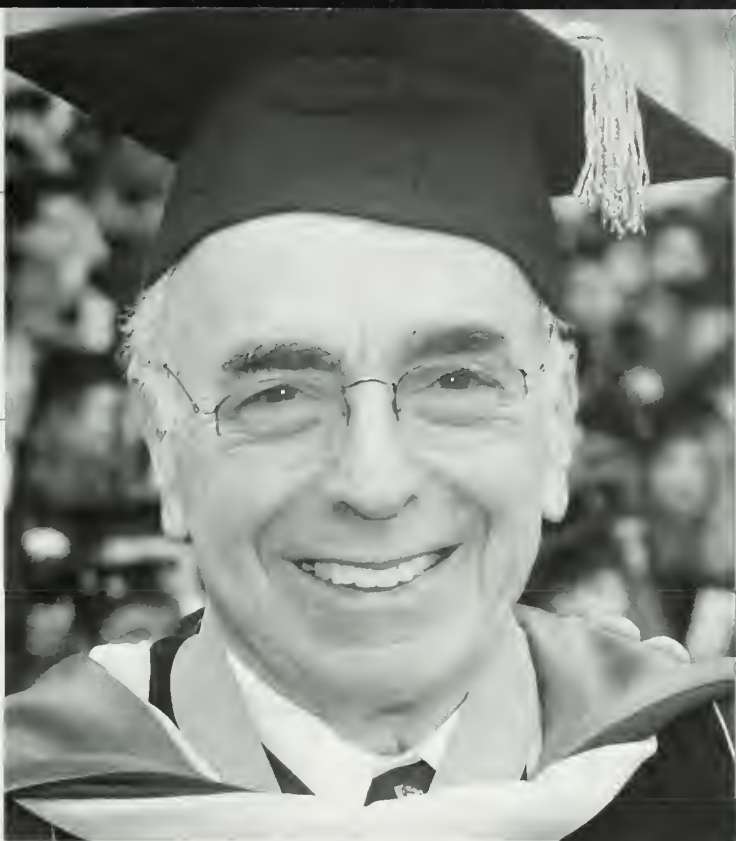
In the midst of this project, Nora and I met with an interpreter from Massachusetts General Hospital. "You know," she said, "getting the exact word, that's not the problem. That's easy. But getting the meaning of the word across to the person you're talking to, that's the challenge. We are the meaning makers." So today I thought I'd

explore other opportunities for translations in medicine.

First, a few of you are going directly into basic biomedical research and a few more will be following the same path after some clinical training. I ask those of you in this group to translate the recent exuberant progress in basic science into a new medical physiology—one in which the basic processes of signal transduction and the organization of the cell cycle, as well as the processes of information and repair, are melded into a single basic science that could be threaded through medical student experience, including the clinical years. Who better than recent medical students to understand how to do that and create meaning for a new generation of students?

Patients develop needs for information. They need to know

A medical education pioneer
calls upon HMS physicians to create
new meanings for their patients



A somewhat larger subset of you are going into clinical research as physician-scientists. This is where the term “translational research” comes from. The decoding of the human genome does not yet carry any medical meaning, for example. The human genetic sequence needs to be translated into the development of drugs and other approaches for both medicine and prevention. So my second definition of translation leads me to urge many of you to take clinical investigation seriously and bring meanings to the genome project that doctors and patients can use.

Third, most HMS graduates spend most of their time taking care of patients. Doctors must learn to translate between disease, which is what’s in a textbook, and illness, which is the experience of a human being in trouble. As soon as people get sick, they develop new needs for hydration, food, medicine, surgery, or radiotherapy. But they also develop needs for information. Patients need to know what’s wrong, what an illness means, what it portends. But the meaning of a doctor’s words stretches over a great range of receptors. The doctor’s words are the information, the patient’s understanding is the receptor, and the doctor has to create the match.

Is the patient old or young? English-speaking or not? Worried about children? Worried about parents? Anxious about a job? Concerned about physical appearance? In all these ways, doctors have to create meanings for their patients. Understanding the patient is the translation that all doctors are called upon to carry out for all patients.

The fourth possibility for translation starts with a lament. The current American health care system has many shortcomings. It doesn’t give patients enough time with their doctors and it doesn’t allow doctors to practice the quality of medicine for which they were trained. Recently an alumna told me about an email she had just received from her division head in child and

adolescent psychiatry. It read: “I am basing your productivity calculation on the seven month data provided to me. I have normalized all data to a 30-billable-unit week so as to be able to compare your productivity to others. That is, at 30 billable units per week over seven months, one would be expected to bill 840 units. Your normalized billable units are 514.”

A sick child, a troubled adolescent, and a worried family are not billable units. Yet the division head went on to inform the alumna that the reason her billable units were too low was that she had refused to see an adolescent patient in 15 minutes. “I had insisted on 30 minutes,” she explained. “I wanted to be able to talk to the family. That’s the way I was trained.”

Our present system doesn’t support preventive services. It doesn’t pay for the medicines that elderly Americans need for their care. It leaves large segments of our country without proper support, and in many places, it allows people to profit by denying care. We need and deserve a system that takes the incredible promise of modern biomedical and social science and translates it so that the two are joined in a system that rewards the intelligence, sensitivity, morality, and dedication of doctors like the group in front of me right now. I call on all graduates to dedicate their lives to that vision of medicine, and all citizens to join in the social and political action needed to translate that distant hope into an encircling reality. ■

Daniel D. Federman ’53 is senior dean for alumni relations and clinical teaching at HMS.

what’s wrong, what an illness means, what it portends.

THE WOUNDED

by TREVOR D. BURT

*The wounded surgeon plies the steel
That questions the distempered part;
Beneath the bleeding hands we feel
The sharp compassion of the healer's art
Resolving the enigma of the fever chart.*

—T.S. ELIOT, *THE FOUR QUARTETS*

DOUBT WHETHER, WHEN T.S. ELIOT PENNED THOSE lines in 1940, he gave much thought as to how they might hold relevance for a group of fledgling physicians more than 60 years into the future.

The first time I encountered Eliot's "wounded surgeon," it was in the mirror during my own surgery rotation. Having just worked in the Massachusetts General Hospital emergency department for 20 hours, I was tired,

cranky, and feeling sorry for myself. It was then that I found myself staring at a CT scan of one of my patients. She had come to the emergency department earlier that evening complaining only of neck pain. The scan showed multiple metastatic tumors in her spinal column.

That was the first time I ever had to break terrible news to someone. Naturally, she was devastated. I think what I found shocking was how deeply the experience affected me. In some way, I had experienced an age-old paradox, which Eliot captured in his simple phrase "the wounded surgeon." Although I had the privilege of being involved, in a small way, in this woman's care, my involvement had come at a not-insignificant cost to my body, mind, and heart. I had not slept

in a long time and my body was violently protesting one too many evening meals gathered from a hospital cafeteria cart.

So, to be involved in this woman's life, I had sacrificed some small part of my own. That, to me, is Eliot's paradox: with all our training and technology, we cannot effectively touch the lives of others without somehow giving of our own lives; we cannot heal the wounds of others without being wounded ourselves. The danger, though, comes when surgeons forget to tend to their own wounds.

To be certain, it is possible to be a flawless technician or a brilliant diagnostician and to administer the perfectly chosen medical therapy without even knowing your patient's name. But that is far from what it means to be a healer. To touch a person's life in a more profound way requires movement beyond our own reservations and acknowledgment that we share with our patients a universal humanity and vulnerability.

Although we must often be pillars of strength for our patients, we must also understand our own weaknesses. There comes a time in each of our lives when we discover that we are no more spared the ravages of body and mind than anyone else. It is this commonality that allows us to feel empathy, even when the pressures mount to cut corners, to save time, and to forget the small things that make the patient/doctor relationship unique and sacred.

In the tradition of medical education and practice, there is all too often an unspoken expectation that our profession must take precedence over all else. This notion

We cannot effectively touch the lives of others without

SURGEON

A young physician urges his peers to take care of themselves as they care for others

of absolute self sacrifice, while seemingly noble, is ultimately destructive. All medical students, at one point or another, lament the high divorce rates in residency programs. We also face the statistic that physicians have one of the highest suicide rates of any profession. How can it be that someone who has devoted his or her life to the pursuit of caring for the well-being of others could fall victim to such despondency and devastation?

While tending to the infirmities of our fellow humans, too often we neglect our own. A pervasive attitude sadly persists that the pain endured in the course of training somehow equates to the quality or rigor of that training. I am excited to start my residency and feel privileged to be able to do it at an institution that I dearly love. But the prospect of residency training is daunting. It is easy to feel cheated of your youth, and it is easy to become broken and resentful when you are sleep-deprived and overworked.

"The only real slavery," *McCumings* once said, "is service without love." Even the most compassionate person, however, operates under the constraints of a human body and mind. If, in fact, we are committed to raise up a generation of healers who provide the best possible care to their patients and themselves, we must think soberly about the messages we convey and the patterns we establish early in their training.

As you care for your patients, never forget to take care of yourselves and of each other. The pressures will be relentless, and at times will seem inescapable. And so we must also be relentless in our conviction that we cannot truly help to make others whole unless we ourselves are whole.

In practical terms, this means that we must not ignore our own health needs, whether physical or mental. We must pursue those things that bring us joy and balance. And perhaps most important, let us never neglect those with whom we

share our lives. Our families provide us with our most meaningful connections, and like everything meaningful, these relationships demand our devotion and attention.

I know my words sound idealistic, and yet I say them without apology. In the next few years of our careers, many forces will try to strip us of our humanity. Protect and cherish it. That humanity is our greatest weakness and our greatest strength. Hold your patient's hand, be your patient's voice of advocacy, and when the time is right, do not be afraid to cry with your patient. But just as you must let yourself be wounded, you must allow yourself to be healed.

Finally, to my friends and classmates, many of whom have become like family over the last five years, I'd like to borrow one more thought from T.S. Eliot: As we make this transition, I would say "not farewell, but fare forward, voyagers." ■

Trevor D. Burt '02 is a resident in pediatrics at Children's Hospital in Boston.



giving of our own lives.

A newly minted doctor offers whimsical recollections of his experiences during medical school—and expresses gratitude to those who helped him along the way

by WILLIAM MEEHAN III

BEFORE REFLECTING ON THE FUTURE, I thought it might be nice to look back briefly on the past four years. To help us do that, I have some entries from my medical school journal I want to share with you.

Wednesday, September 30, 1998

Medical school is in full force. The amount of work we do is immense. Anatomy seems to be going well. Histology is another story. I can't stand it. I never know what I am looking at. I stare into the microscope and all I see is a vast ocean of pink and blue. I just want to pass and get it over with.

Thursday, October 1, 1998

Tomorrow we get our first midterm. It is a take-home, open-book, open-note midterm that doesn't count toward our final grade. My guess is it will be fairly difficult. I'd write more, but it's 9:00 p.m. and I need to join my friends for beer at The Squealing Pig.

Thursday, October 7, 1999

Today I examined a patient as part of my patient/doctor course. I noticed that his pupils would not constrict when exposed to a beam of a light, as a normal healthy person's

should. This concerned me and I reported it to my preceptor, who walked over to the window, pulled down the shade, shut off the lights, and said, "Now try." The patient's pupils constricted perfectly. Once again, I felt stupid.

Tuesday, February 19, 2000

My two greatest role models as I start my career as a pediatrician are themselves not physicians. They are my parents, the epitome of self-sacrifice and diligence. When my sister and I were young, my mother sacrificed a career of her own in order to take care of us full time. She returned to work when we were old enough to care for ourselves and then went on to finish her college education.

I remember struggling with geometry in the tenth grade. My father had never had a geometry course in his life. He went out and bought some textbooks and taught himself geometry, just so he could help me with my homework. Perhaps the only downside to being their child is knowing that no matter what I accomplish in life, I will never be even half the man my father is.

Tuesday, October 17, 2000

I was on call last night when a pediatric cardiothoracic surgeon came down to consult on a patient our team was caring for. The young boy had spiked a fever and was shaking in his bed. The surgeon discussed the plan of care with our senior resident. Then, for one brief moment, he seemed bored. His boredom ended when, out of the corner of his eye, he spotted me. "You've got a lot of books there," he said.

Now, answering proudly is always a foolish thing for a

STRESS TESTS

I knew what was to come—academic target practice. He would rapidly fire medical questions at me, which I would attempt to dodge. Ideally for him, the questions would have little relevance to patient care, and thus I would be even less likely to know the answers to them. To protect myself, I would conjure up what little information I knew about pediatric surgery and spew it forward, whether or not it had any relevance to the question he had just asked.

"You a medical student?" he asked. I tried desperately to think of a way out. But time was short. I knew if I didn't answer him soon, he would accuse me of being so stupid that I didn't even know whether or not I was a medical student.

"Yes," I stuttered.

"Tell me, medical student," he hissed, "why do we draw white blood cell counts on patients with fevers?" I couldn't believe it—an easy question. "The counts will often rise with an infection," I answered proudly.

Now, answering proudly is always a foolish thing for a medical student to do. I could see in the surgeon's eyes the joy he was about to experience by embarrassing me. "Actually," he said, "when a patient has an infection, the white cells marginalize within the vessels and are then extruded through the vessel wall into the site of infection. Therefore they would not be detected in a blood sample."

I thought this was true for localized infections, but a patient who is post-open heart surgery with a fever, shaking chills, and a septic appearance may very well have a systemic infection and an increased white blood cell count. Knowing that saying this aloud to a pediatric cardiothoracic surgeon at Massachusetts General Hospital was academic—and possibly physical—suicide, I kept my thoughts to myself.

Tuesday, March 19, 2002

My classmates Sheila Rao and Mark Bisanzo have nominated me to give one of the student addresses at graduation. I am honored. I must now think of the one thing I wish to say to my classmates as they begin their undoubtedly distinguished careers.

If I am fortunate enough to be selected as one of the speakers, I will tell them this: You are graduating from one of the most prestigious academic institutions in the entire world. You have earned the privilege of caring for others by being intelligent and hardworking students. Your patients—as well as their parents, children, family, and friends—will come to you at the most frightening, the most emotional, and the most vulnerable periods of their lives. They will place their well-being and, sometimes, their very lives in your hands. Treat them with the compassion they expect, the care they need, and the dignity they deserve. ■

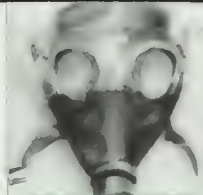
William Mechan III '02 is a resident in pediatrics at Children's Hospital in Boston.



medical student to do.



DOCTORING



A

LUMNI DAY SPEAKERS AT THE "TERRORISM: A RANGE OF Responses" symposium sought to place the events of September 11, 2001, and the ensuing anthrax outbreak in historical perspective. HMS has

been taking a lead role, the speakers said, in adapting public health priorities to new threats, even as we struggle to define them.

Gary Fleisher, HMS professor of pediatrics at Children's Hospital, likened present efforts to respond to terrorist threats to the mobilization of HMS personnel after the attack on Pearl Harbor. Morton Swartz '47, HMS professor of medicine at Massachusetts General Hospital, spoke of the critical role that alert physicians played in identifying last year's anthrax outbreak. David Bell '77, an infectious disease specialist at the Centers for Disease Control and Prevention, placed acts of bioterrorism in the broader public health context. And Frederick Bieber, HMS associate professor of pathology at Brigham and Women's Hospital, described the importance of helping the families of victims locate the remains of their loved ones—and, in so doing, receive a measure of solace.

"Although the bioterrorism attacks caused tragedy and tremendous disruption," Bell said, "the challenges posed offer opportunities to improve linkages among clinicians, health care delivery systems, and public health agencies that will be useful in dealing with other emerging public health threats." ■

EVIL


Physicians offer strategies for defusing terrorist threats and helping survivors of terrorism to move forward

From clinical care to research, HMS has emerged on the front lines of the war on terrorism, replaying its historic leadership role in times of national crisis



THE WARD EFFORT

by GARY R. FLEISHER



UST OVER 50 YEARS AGO, A SURPRISE AERIAL ATTACK ON U.S. military facilities at Pearl Harbor killed thousands of American soldiers and sailors. This “day of infamy,” as December 7, 1941, became known, elicited a tremendous outpouring of support for our country from citizens from all walks of life. Faculty from Harvard Medical School not only participated in this outpouring, but also emerged as leaders in many areas.

The response of HMS doctors spanned the spectrum from laboratories on campus to wards and operating amphitheatres of field hospitals just behind the front lines. One stellar example: Edward Cohn, director of what is now known as the Center for Blood Research, worked with Charles Janeway to develop a technique to separate plasma into Cohn fractions. The albumin of these proved critically important for treating hemorrhagic shock in severely wounded casualties.

As we move forward in history, an even more dastardly attack from the air at the World Trade Center took the



A n intervention that could expedite diagnosis

lives of thousands of people, killing old and young, men and women, blacks and whites, Christians, Jews, and Muslims. Shortly thereafter, the dissemination of anthrax through the U.S. Postal Service forced the American public to confront the specter of biological warfare.

September 11, 2001, and the subsequent bioterrorist events—like the attack of December 7, 1941—have now earned a place in the history of the United States as atrocities of a terrible magnitude and have led to a unified national response. Once again, members of the HMS faculty have shouldered their fair share of the burden. As in 1941, the current response has ranged from discoveries in the laboratories to hands-on care of victims.

Basic research represents one of the key front lines in this new war on terrorism. Anthrax, as recent events have shown, is one of the likeliest bioterrorist agents for future attacks. The only vaccine against the bacterium is cumbersome to administer and has shown limited efficacy. Once symptoms develop, antibiotic agents provide only minimal improvement in the survival rate. Thus, the threat of attack with this pathogen calls for improved prophylactic and therapeutic modalities.

Last year at HMS, as part of an ongoing project funded by the National Institutes of Health, R. John Collier, Michael Mourez, and Bret Sellman reported in *Science* on a new treatment for anthrax. This deadly bacterium, *Bacillus anthracis*, secretes three toxins: the protective antigen, edema factor, and lethal factor. In the bloodstream, individual protective antigen molecules cluster together into pre-pores that then integrate into the membranes of mammalian cells, where they change their configuration to form mature pores. Through these toxin-induced breaches of the cellular defenses, edema factor and lethal factor gain entrance into the cytoplasm, where they disrupt cell function, paving the path to disease.

Collier and colleagues generated mutants of the protective antigen that combined with the naturally occurring version into defective pre-pores, which were unable to mature into functional units. They then injected rats with a mixture of lethal factor, edema factor, and either wild type or mutant protective antigen. Whereas all the animals receiving the mixture with the wild type protective antigen became moribund within 90 minutes, the mutant protein conferred com-

plete protection against death. Studies are now under way on the use of this discovery both as a treatment for anthrax and as a component of a new, more effective vaccine.

Applied research has been crucial as well. One of the dangers presented by biological agents is that the diseases manifest insidiously, often mimicking common infections such as influenza in the first few days after onset. The nonspecificity of the early signs and symptoms poses the threat of delayed detection. Computer models of attacks with either anthrax or smallpox on major metropolitan areas, such as New York City, have shown that an intervention that could expedite diagnosis of the first case by a mere 48 hours might save a million lives by allowing early mobilization of vaccine stores and pharmaceutical stockpiles.

Supported by the Agency for Health Care Research and Quality, Kenneth Mandl '89, Michael Shannon, and other members of the emergency medicine division at Children's Hospital in Boston have taken a two-pronged approach to the issue of early detection. Combining expertise in emergency medicine, informatics, infectious diseases, and toxicology, these investigators began by mining a warehouse of clinical data collected over the past decade on every child treated in the emergency department to determine the range of the normal seasonally adjusted rates for infectious syndromes, such as influenza and gastroenteritis.

Next they developed algorithms to provide alerts whenever the incidence of disease exceeded the predicted thresholds overall or, using geocoding, whenever aberrant rates were uncovered in a narrow geographic area. The strategies they developed are now undergoing evaluation in the United States and by our allies abroad. In addition, Andrew Fine, a clinical fellow working under the mentorship of Mandl and colleagues, has performed an analysis to set standards for the initiation of presumptive therapy against anthrax among patients with apparent influenzal syndromes, depending on prevailing threat levels in various regions.

Education is yet another critical arena in which HMS faculty members have been marshaling their resources. The dissemination of anthrax through the mail and the subsequent fatalities not only surprised the general public, but also caught medical professionals, government officials, and law enforcement agents

of the first case by a mere 48 hours might save a million lives.

off guard. Even as the specific pathogen was identified and additional details emerged, uncertainty reigned in many quarters. The knowledge base to deal with bioterrorism fell somewhere between virtually nonexistent and woefully inadequate.

Robert Crone, clinical professor of anesthesia at HMS, responded by organizing BioSecurity 2002, the world's largest conference dedicated to providing an educational forum on all aspects of bioterrorism. This meeting will convene experts from human and veterinary medicine, the public health sector, agriculture and plant biology, the pharmaceutical and computing industries, U.S. and international security services, transportation agencies, and nearly every branch of the federal government. The goal of this gathering is to create a forum for the exchange of information and for planning a coordinated response to the threats that we are likely to face in the coming years.

HMS has also been in the forefront of responses to terrorism in terms of clinical care. When terrorists struck the World Trade Center on the morning of September 11, bursts of activity occurred throughout the Medical School. At Massachusetts General Hospital, Susan Briggs received an urgent call at 11:00 a.m. from the Federal Emergency Management Agency, asking her to mobilize MA 1, the Massachusetts Disaster Medical Assistance Team located in Boston.

As the founder of the team and its commander for over a decade, Briggs, along with her associates, was prepared. Physicians and nurses in this group had gained valuable experience responding to such natural disasters as Hurricane Andrew in Florida and Hurricane Marilyn, which devastated the island of St. Thomas. Moreover, during previous mobilizations the team had coordinated efforts with various civilian and military agencies in preparation for terrorist attacks, by pre-deploying to venues such as the 1996 International Olympics in Atlanta and the 50th anniversary celebration of NATO in Washington, DC.

During these pre-deployments, the physician volunteers on the team, drawn predominantly from the ranks of HMS, had trained extensively for terrorist attacks, rehearsing all aspects of a response, from "hot loading" Blackhawk and Huey helicopters to treating mass biological and chemical casualties in an austere environment far removed from the usual supports found in abundance within a half mile of the Medical School.

Thus, by 3:00 p.m. on September 11, just six hours after the attack, a convoy of vehicles began to ferry Briggs and her group, along with prepackaged medical supplies from a storage facility from nearby Hanscom Air Force Base, to a site on the perimeter of Ground Zero. Although saddened by the lack of survivors, a small contingent from the team remained in New York, assisting the effort to retrieve and identify victims, providing medical care to federal rescue workers, acting as a reserve force in the event of a biological attack, and later providing counseling and prophylaxis to postal employees exposed to anthrax.

The United States survived aerial assaults on September 11, 2001, and attacks with a biological agent the following month. To deal with the new threats facing our country, President Bush created the Office of Homeland Security. But are we safe?

That very question was posed to John Mekalanos, chair of the HMS Department of Microbiology and Molecular Genetics, during an interview on National Public Radio. Mekalanos answered negatively, proceeding to recommend increased public and private investment as well as the appointment by the president of a "biological warfare czar," whose primary responsibility would be to oversee every line of defense against biological attack. Specifically, he suggested, "Perhaps we need a new large-scale 'bio Manhattan Project,' like the Second World War undertaking that unlocked the secrets of the atom. Such a project should draw on our deep academic research base and our innovative medical community."

My brief summary has not done justice to the efforts made by members of the HMS community in confronting the threat of bioterrorism. I hope at least, however, that my remarks have provided a glimpse into the diverse nature of our own academic medical response. I feel honored to have been allowed even the tiniest of roles in the battle against terrorism. As I watch the incredible contributions of my colleagues, I am proud to be a member of the faculty. At this time of great national crisis, I hope that HMS alumni will join me in recognizing the significant role that this great institution has played. ■

Gary R. Fleisher, MD, is the Thomas Morgan Rotch Professor of Pediatrics at Harvard Medical School.

TRACKING A KILLER

by MORTON N. SWARTZ

EARLY IN THE TWENTIETH CENTURY IN THE United States, the annual incidence of anthrax was only about 125 cases. It subsequently declined steadily to less than one case per year, a rate maintained for the past two decades. Experience in recognition and treatment of this disease declined as well. This trend changed dramatically last year with the bioterrorism-associated outbreak of anthrax in the eastern United States. Twenty-three cases occurred—12 cutaneous and 11 inhalational (five of the latter fatal). This outbreak emphasized the importance of early clinical recognition in possible new outbreaks of anthrax—and of other bioterrorism-associated diseases.

When I attended HMS in the 1940s, anthrax was not the subject of a single bacteriology lecture and our pathology professor, S. Burt Wolbach, devoted only one lecture to anthrax. In it, Wolbach described the encapsulated, spore-bearing organism; its source of infection in cattle

Photo: © 2002 Associated Press/Courtesy, CDC

An HMS physician gives a clinical overview of anthrax, a once rare occupational hazard that has become a lethal weapon in criminal hands



W
e must remain vigilant for other means of air

and sheep; and its clinical forms of infection, including "malignant pustule"; "wool sorters' disease," a rapidly fatal pneumonia; and intestinal anthrax. He noted that death was associated with high-grade bacteremia, thought to result in mechanical blockage of blood vessels. Wolbach didn't subscribe to the latter view, reasoning that death more likely resulted from a bacterial product acting on vessel walls. He noted that *B. anthracis* toxins had not yet been discovered.

Wolbach's suggestion that lethality of anthrax infection was related to an exotoxin was substantiated ten years later by investigators in England. Since then, much has been learned about virulence factors of *B. anthracis*, including its antiphagocytic polyglutamyl capsule and its exotoxin. The genes for these are encoded on two plasmids. The toxin is binary, consisting of a B, or receptor-binding moiety, and an A, or enzymatically active moiety. Unlike other exotoxins such as that of *C. diphtheriae*, which are secreted as single proteins with A and B domains separated by proteolytic cleavage, anthrax toxin is secreted as three separate polypeptides—one B and two A subunits. The B subunit, termed protective antigen (PA), and the A subunit, designated edema factor (EF) and lethal factor (LF), are released as nontoxic monomers and spread to the surface of mammalian cells.

The surface-bound PA is cleaved by a cell-surface protease into two fragments, the larger of which remains bound to the cell and heptamerizes, enabling it to bind EF and LF (shown by the laboratory of R. John Collier at HMS). The toxin-bound complex is then endocytosed and trafficked to the endosome, where the heptamerized PA inserts into the endosome membrane and directs translocation of EF and LF into the cytosol, where their toxic effects are produced. EF is a calmodulin-dependent adenylyl cyclase. The ensuing increased cellular levels of cyclic AMP are responsible for the prominent edema, as well as for the inhibition of function of neutrophils and other phagocytes.

LF is a zinc metalloprotease that inactivates mitogen-activated protein kinase kinase, causing inhibition of intracellular signalling. LF stimulates overproduction of cytokines such as TNF α and IL-1, and, at higher concentrations, kills macrophages, both effects contributing to death in systemic anthrax.

Anthrax occurs in cutaneous, inhalational, and gastrointestinal forms. More than 95 percent of naturally occurring anthrax is cutaneous; but in the recent bioterrorism outbreak, 55 percent was cutaneous and 45 percent inhalational. In cutaneous anthrax, the spore is introduced at the site of a break in the skin, usually on the arms, neck, or face. After an incubation period of one to seven days, an erythematous and painless—although sometimes pruritic or burning—papule develops. Within one to two days, it turns into a "malignant pustule," or a one to two-centimeter vesicle filled with serosanguineous fluid. Small satellite vesicles may develop.

Over the next few days the vesicle ruptures and undergoes necrosis. The hemorrhagic, necrotic lesion becomes a superficial ulcer covered with a dark eschar. Surrounding erythema becomes marked and is associated with a "gelatinous," brawny, non-pitting edema that extends for some distance from the initial lesion. The edema may become pronounced when the lesion is on the face or neck, even interfering with the upper airway. Systemic symptoms such as malaise and low-grade fever may accompany the process. Regional lymphadenopathy may be present, but lymphangitis is usually not present unless secondary infection develops. Healing occurs in three to four weeks without scarring.

Without treatment, bacteremia may ensue, with mortality up to 20 percent. Antibiotic treatment is curative. Diagnosis can be made by Gram stain and culture of vesicular fluid or on swabbing under the edge of the eschar or at the base of a necrotic ulcer. If these tests are negative, or if the patient has begun receiving antimicrobial therapy, skin punch biopsy for culture, Gram stain, and immunocytochemistry can provide the diagnosis. Where available, polymerase chain reaction (PCR) can be used.

Cutaneous anthrax may mimic a carbuncle (painful); cellulitis (painful, and anthrax in the young may have wide areas of erythema); ecthyma; ecthyma gangrenosum (usually in patients with neutropenia and *Pseudomonas aeruginosa* bacteremia); orf (without gelatinous edema); or brown recluse spider bite (painful with incipient necrosis). Uncommonly, cutaneous anthrax may cause such marked edema that secondary bullae develop, suggesting necrotizing fasciitis, streptococcal cellulitis with bullae, or *Vibrio vulnificus* cellulitis.

airborne delivery of anthrax spores, such as ventilation systems.

Inhalational anthrax is a consequence of inhalation of spores (one millimeter in diameter), "weaponized" in the current context. It is estimated that the median lethal dose is in the range of 2,500 to 40,000 spores. Inhalational anthrax is fundamentally a hemorrhagic thoracic lymphadenitis, which, if untreated, is accompanied by bacteremia and frequently complicated by meningitis. The incubation period is usually one to seven days, but may be as long as six weeks, during which time the spores convert to vegetative forms and multiply.

The illness is classically described as biphasic, but the phases often form a continuum. The first phase lasts two to five days and is frequently termed "flu-like." Symptoms include fever (99 to 101 F) plus chills, sweats, fatigue, myalgias, headache, nausea, vomiting, nonproductive cough, chest discomfort, and dyspnea. Abdominal pain sometimes occurs, and may misdirect attention. Sore throat is uncommon and coryza is not part of the picture. Unlike viral infections, tachycardia is present. White blood count is normal or slightly elevated.

The second phase of inhalational anthrax begins abruptly with severe dyspnea, higher fever, and hypotension. The illness progresses rapidly, with the development of shock and hypothermia. Stridor and cyanosis may be present because of extrinsic obstruction of the trachea and bronchi by enlarged lymph nodes and subcutaneous edema of the chest and neck. In up to 50 percent of patients, confusion, obtundation, and nuchal rigidity herald progression to meningitis. Untreated, the second phase ends fatally in 24 to 48 hours, as in 16 of the last 18 cases of inhalational anthrax reported in the United States between 1900 and 1978. In the recent bioterrorism-associated outbreak, the fatality rate was 45 percent, the difference being attributed to early diagnosis, effective antimicrobial therapy, and intensive care unit availability.

White blood count in this phase of anthrax is elevated. Chest radiographs and CT scanning are helpful in diagnosis. Eight of the 11 recent cases showed mediastinal widening or lymphadenopathy. Pleural effusions are commonly present even though pneumonia is usually absent. The effusion is often hemorrhagic, and examination may reveal the diagnosis by the presence of large gram-positive bacilli on Gram stain, by isolation of *B. anthracis* on culture, or by demonstration of the infect-

ing organism by PCR or immunohistochemical staining. Blood cultures are usually positive at the end of the first stage of illness. The degree of bacteremia may be sufficiently intense to allow diagnosis by Gram stain of buffy coat.

Gastrointestinal anthrax develops two to five days after ingestion of undercooked, spore-containing meat from an animal with anthrax. The illness begins with nausea, vomiting, fever, and abdominal pain. Bloody diarrhea and signs suggestive of an acute abdomen follow. The usually solitary ulcerative lesion occurs at the site of intestinal inoculation mainly in the terminal ileum or caecum. Such lesions should be distinguished from the multiple hemorrhagic submucosal lesions seen in some fatal cases of inhalational anthrax, analogous to the submucosal metastases of hematogenously disseminated, malignant neoplasms such as melanoma. Gastric ulcers with associated hematemesis may be a feature. Hemorrhagic mesenteric lymphadenitis occurs in primary gastrointestinal anthrax and may be associated with marked ascites. Mortality is more than 50 percent.

Oropharyngeal anthrax is a variant of intestinal anthrax following germination of ingested spores in the oropharynx. Symptoms include severe sore throat (due to oral or pharyngeal ulcers covered with pseudomembranes); fever; dysphagia; and sometimes respiratory distress caused by marked lymphadenitis and prominent edema.

In the course of the recent outbreak, we became aware of mail as a means of delivery of this bioterrorism agent. We must remain vigilant for other means of airborne delivery of anthrax spores such as ventilation systems, transportation systems, and crop dusting. Indeed, the possible introduction of this disease through the food supply is not impossible, particularly since so many items sold in our markets originate in foreign lands.

The approach to recognition of infectious diseases that one has read about but never seen, or have never been described, involves initial clinical pattern recognition by physicians. Confirmation follows through isolation and identification of the infecting agent in the microbiology laboratory. Epidemiologic investigation then provides the necessary information on the vector of transmission. ■

Morton N. Swartz '47 is professor of medicine at Harvard Medical School.

WEAPONS OF MASS

by DAVID M. BELL

THE ANTHRAX BIOTERRORIST ATTACKS OF 2001 ARE THE most striking recent example of how the world of infectious diseases has changed since many of us were medical students. In the 1970s, it seemed that virtually all important infectious agents and their modes of transmission had been described. Antimicrobial drugs and public health interventions such as chlorination, pasteurization, vaccination, and sanitation had brought historically important infectious scourges of

humanity under control, at least in countries that could afford them. A worldwide smallpox eradication campaign was succeeding, new antimicrobial agents seemed to be endlessly flowing down the pipeline, and the future looked bright.

The first major crack in this happy paradigm came with AIDS in the 1980s—and in recent years there has been a steady drumbeat of emerging, re-emerging, and drug-resistant infections identified around the world. In the 1990s, for example, we recognized fatal human infections due to hantavirus in New Mexico, West Nile virus in New York, a new strain of influenza transmitted from chickens to humans in Hong Kong, a new variant of Creutzfeldt-Jakob disease in humans related to mad cow disease in Europe, and on a worldwide basis, drug resistance that seriously compromised treatment of *Staphylococcus aureus*, pneumococci, salmonella, tuberculosis, malaria, and other previously easily treatable infections. With globalization of travel and commerce, the odds are greatly increased that infections in distant corners of the world will appear here as well.

This is the broader context in which the latest bioterrorist threat must be seen. We face challenges involving new agents

and novel modes of transmission and cannot always rely on experience from the past. Confronting these challenges will require partnerships among clinicians, health care delivery systems, and public health agencies.

In the area of disease surveillance, alert clinicians—including clinical laboratory personnel—are the front line. It was a clinician in New York City who, after seeing two cases of encephalitis with unusual features, notified the health department, thus leading to the recognition that West Nile virus had entered the Western Hemisphere. It was a clinician in Florida who suspected anthrax in the first case of the 2001 attacks.

And it was an emergency room physician who helped to establish that postal workers were at risk. This physician saw a patient suffering from a mild flu-like illness four days after an anthrax-contaminated letter was opened in Senator Tom Daschle's office. Although no postal employees had been infected in the previous wave of letters to Florida and New York, when the physician learned that this man worked in the mail sorting facility near the capital, he wondered if his patient could have contracted anthrax after being exposed to the Daschle letter. This insight not only saved the patient's life that night, but also helped to uncover an important new epidemiologic risk.

Response to bioterrorist attacks—and outbreaks of other emerging infections—can be divided into three phases. The first includes disease recognition, reporting, and provision of clinical care. All clinicians, regardless of specialty, must have enough information about clinical features of the Category A bioterrorism agents—anthrax, smallpox, plague, tularemia, botulism, and hemorrhagic fever viruses such as Ebola—to raise their index of suspicion, and must know how to report suspected cases to local public health authorities.

The second phase involves investigation by public health and law enforcement personnel and interventions to prevent additional cases. This includes assessment of people at risk, distinguishing people who have other illnesses, counseling,

INSTRUCTION

Clinicians have critical roles to play in responding to bioterrorist threats

administering post exposure prophylaxis, and possibly updating recommendations for diagnosis, prophylaxis, and treatment in the context of an evolving evidence base.

The third phase includes follow-up of patients and exposed people to detect late onset of illness, promote adherence to prophylaxis, monitor for possible adverse effects of prophylaxis, and address occupational and mental health issues.

Clinicians need timely, credible information, and providing it to them was a unique challenge last fall. Public health agencies need better communications systems to alert clinicians when attacks are suspected or documented and to rapidly disseminate credible information for risk assessment, diagnosis, and clinical care. Public health agencies also need to facilitate real time reporting and laboratory testing. Current systems have worked reasonably well for most urgent problems, but were not sufficient for the anthrax emergency.

The Centers for Disease Control and Prevention (CDC), for example, has a system called the Health Alert Network for sending urgent electronic messages to state and local health departments, which then typically inform health care institutions in their districts. The CDC also has a Rapid Notification System (mostly for product recalls) and supports electronic discussion networks for infectious disease and emergency medicine physicians as well as numerous videoconferences and webcasts. In Massachusetts, the Department of Public Health uses a broadcast fax/pager communication system linked to most hospital emergency rooms, infection control personnel, infectious disease physicians, disaster coordinators, and ambulance service providers to disseminate information and alerts. But these systems were not really designed to reach front-line clinicians.

One challenge is that front-line clinicians need a level of detail that is meaningful to the practice of their specialties in their local communities. For this reason, state and local health departments need to be well integrated into any communication system. A major priority for use of the nearly \$1 billion the CDC has awarded to states to improve bioterrorism preparedness is improved communications, including health alert networks using modern information technology.

We also need to adopt a more active way of providing information. Last fall, CDC staff worked with an array of



medical organizations to rapidly distribute anthrax information to their members. The CDC is working to evaluate what worked well in this process, determine how to do it more rapidly, and assess whether information reached the appropriate audiences. Future surveillance systems are likely to promote bidirectional communication, rather than the traditional unidirectional reporting.

Finally, it is essential to learn about bioterrorist agents and other emerging infections in advance, before any attack takes place. Public health agencies, professional societies, and medical educators are already working to address this need by developing new curricula, continuing medical education programs, and web-based training.

Although the bioterrorism attacks caused tragedy and tremendous disruption, the challenges posed offer opportunities to improve linkages among clinicians, health care delivery systems, and public health agencies that will be useful in dealing with other emerging public health threats. We fail to capitalize on these opportunities at our collective peril. ■

David M. Bell '77 is assistant to the director (for antimicrobial resistance) of the National Center for Infectious Diseases at the Centers for Disease Control and Prevention.

RECKONING WITH

by FREDERICK R. BIEBER

MY STORY BEGINS IN CROATIA, WHERE I HAD been called to confer with members of the International Commission on Missing Persons. With us were representatives from the U.S. State Department, Army, and Federal Bureau of Investigation, as well as other forensic experts. Our discussions focused on the scientific, technical, and logistical aspects of identifying the more than 30,000 people who perished during the 1990s as a result of the terrible conflicts in the former Yugoslavia. The dead include thousands of women, children, and elderly in addition to the soldiers and militiamen, many of whom were teenagers.

Over the years my work in forensics has involved me in many unsettling matters, but this trip to Croatia had represented, without a doubt, the most disturbing and memorable experience of my career. I was grateful to be returning home. As my plane took off from Dubrovnik,

PHOTO: JEFFREY M. HARRIS



THE DEAD

A pathologist explores how forensic medicine can help console the grief-stricken



W

e all carry at times hope beyond reason—

I reflected on the human tragedies I had witnessed in the Balkans. I hoped that my participation had helped make a small difference. As I mulled these thoughts, the deep blue Adriatic swelled below us. The local time was 2:30 p.m.—that's 8:30 a.m. Eastern time in the United States. The date was September 11, 2001.

Not long after arriving home, I was asked to join the newly formed World Trade Center Kinship and Data Analysis Panel. The purpose of this group is to assist the New York City medical examiner's office and the New York State police with matters pertaining to the DNA-based identification of those lost in the tragedy at the Twin Towers. DNA profiling has been a key tool for direct and indirect identification of hundreds of victims from the September 11 attacks. It is often the only method that allows for unequivocal identification.

The simple objective of forensic DNA profiling is to compare the profile in DNA extracted from evidence to that found in DNA extracted from a known—or reference—blood or tissue sample. In cases in which a known sample is available and the unknown sample can be analyzed completely, this is straightforward. With degraded or compromised samples it is more difficult. When reference DNA samples are unavailable for direct comparison, blood relatives are needed to help determine whether a particular body or sample belongs to a given family member.

In closed systems like airplane crashes, the passenger manifest allows contact with relatives to obtain known reference samples from the victims' personal items or clothing for direct DNA comparison with profiles from crash site or crime scene evidence. Almost all U.S. military personnel have blood spot cards stored as modern-day dog tags for just this purpose. As a result, postmortem remains from almost all of those lost at the Somerset, Pennsylvania, and Pentagon crash sites have been identified by members of the Armed Forces DNA Identification Laboratory, many only by use of DNA profile comparisons.

In contrast to closed systems, open systems, like those of the World Trade Center or the Balkans, are more complicated. Difficulties arise because all of the names and the precise

number of individuals who perished are not necessarily known, and reference samples are often not available. Therefore family members and more distant relatives must come forward for victim identification to occur.

Over one-third of the nearly 3,000 World Trade Center victims have been identified using a combination of forensic methods, including DNA profiling. You might have read in the *New York Times* of one such identified victim, one of the 343 firefighters who died saving others at the World Trade Center. This man was initially identified incorrectly, as someone who turned out to be a fallen comrade from the same fire company. The initial identification had relied on the victim's uniform, an amulet around his neck, and the presence of a cervical spine anomaly. The correct identity was discovered only after DNA typing results were available, allowing the remains to be returned to the correct family. Amazingly, both men had worn identical uniforms and amulets and had similar cervical spine anomalies.

It is the hope of everyone involved in the World Trade Center recovery effort that DNA analysis will permit successful identification of a fair proportion of the remaining unidentified bodies or samples recovered. But not all tragedies permit such hopes. In the former Yugoslavia, for example, many of the surviving family members who would be useful for identification of the dead are wandering or confined as refugees. They remain displaced from their homes and villages, separated from their families and uncertain of the fate of their loved ones. Recovery efforts and mass grave exhumations continue in all their horror.

I recently learned that one of my college housemates had perished in the World Trade Center attacks. When I related this sad fact and my role on the World Trade Center Panel to a physician colleague I had not seen in some time, she literally collapsed in my arms with the plea, "Please help find my sister. She died at Ground Zero. We had a funeral without her body." This brings me to the important subject of closure.

The term "closure" has been used to justify our efforts. The hope is that, once we have identified, using forensic methods, a body or body part, the loop is closed, and resolution can

a wonderful, precious, uniquely human tendency.

follow. Closure may be a simplistic cliché to some, yet has real meaning for others.

In the aftermath of terrorism, what is closure? And can laboratory scientists and pathologists really assist to this end? Exactly what justifies the cost of victim recovery, of the enormous efforts of our public safety and medical communities, to identify the remains of so many victims of terrorism?

The dead cannot speak, but their bodies, their bones, and their DNA call out to us. Therefore, our work serves first to document and investigate individual crimes. But as important as this is, it is also vital that we respect the dignity of all individuals lost by returning each one to surviving family members. We bring them home.

Of course, closure does not imply that we can make wrongs right or that we can forget. But the recovery and forensic work may assist us in healing or perhaps allow us to shape our collective future. Documenting, with great precision, the scope and nature of terrorist violence may reduce the chances of its recurrence. It may help us to see the dangers that arise out of disrespect for the freedom, liberty, and dignity of other people, other ethnic groups, other religions, other nations.

Does our idea of closure imply that we can, in any way, ameliorate the agony faced by so many touched by terrorism? For many, I fear, even time will not erase these terrible wounds. Can DNA identification of remains simply add the "right parenthesis" and allow survivors and family members of the lost and missing to move on? Certainly not. But for some—no, for most—such victim recovery brings needed finality. We all carry at times hope beyond reason—a wonderful, precious, uniquely human tendency. In spite of this hope, the finality of having one's worst fears confirmed is often needed, even welcomed. The tools of modern forensics and DNA technology can help bring about this finality.

A statement by Albert Schweitzer is particularly meaningful. "I don't know what your destiny will be," he said, "but one thing I do know: The only ones among you who will really be happy are those who will have sought and found how to serve."

With Schweitzer's propitious words in mind, we must educate medical students to become skillful physicians who will care for the living with intellect and compassion. But, at the

same time, we must teach them lessons about death and dying, and about the cultural and religious needs for saying goodbye.

And we must strengthen their resolve in dealing with the dark side of the human persona, so that they can serve patients and their families who are victims of violence. I like to remind our medical students that many of them, whether they serve as family practitioners, orthopedists, or psychiatrists, will deal with violence, or the aftermath of violence, directly or indirectly almost every day in their work with patients, whether due to terrorism on a mass scale or violence in the home.

Many of our HMS students serve in community projects in Boston and throughout the world in the same spirit that students and house officers stood eager to aid what they initially hoped would be a multitude of September 11 survivors. Tragically, instead, these volunteers gave freely of their time and energies in the medical examiner's offices in New York City after September 11. We need to work closely with our faculty and with the architects of the HMS curriculum to ensure that issues of death and bereavement receive careful treatment throughout our required curriculum and in specialized elective course offerings.

Modern DNA technology plays an important role both for the investigation of terrorist acts and, in the aftermath of terrorism, the assistance of medical efforts focused on victim recovery, identification, and family reunification. There remain many challenges and some compelling policy issues to be resolved surrounding DNA profiling. But I hope you now have a better appreciation of the success of our efforts thus far and their potential. I also hope that you agree, as I do, with Albert Schweitzer, that we should encourage our students to seek and find their own path to serve their patients, our nation, and our world communities.

While forensics and pathology may seem overly morbid and detached, we as practitioners are definitely not dispassionate. I leave you with the words of Ella Baker, the Southern civil rights activist, who said, "We who believe in freedom cannot rest." ■

Frederick R. Bieber, PhD, is associate professor of pathology at HMS and a medical geneticist at Brigham and Women's Hospital.

MISSION POSSIBLE

by JOSEPH B. MARTIN

THIS JUNE MARKED THE COMPLETION OF MY FIFTH YEAR AS dean of Harvard Medical School. Over that time, much has been accomplished, but much more needs to be done.

A cornerstone of my philosophy as dean has been to nurture what I call the “Five I’s”—educational and scientific programs that are interdisciplinary, interdepartmental, inter-faculty, inter-institutional, or international.

The Institute of Chemistry and Cell Biology is one such program. ICCB, which became a reality in 1997, is a collaboration between the Medical School and the Harvard Faculty of Arts and Sciences. It was envisioned to create the new field of chemical genetics, the use of small molecules to activate or inactivate gene products as a means to determine the cellular function of a protein. This area of research has remarkable potential for developing new treatments for disease. And it is an experiment in education as well as science, offering the opportunity for students and postdoctoral fellows to work in a multidisciplinary environment at the frontiers of synthetic chemistry and biology.

Another initiative that reflects the Five I’s is the Harvard Institute of Proteomics. The institute’s major work-in-progress is the development of a full-length gene expression repository of all known genes from humans and commonly

studied model organisms such as fruit flies, worms, and yeast. The repository is founded on the principle of open sharing, so that samples will be available free of charge to any interested scientist. To create a universal standard, the repository is being constructed in collaboration with academic and industry-based scientists worldwide. It promises to be a uniquely valuable resource for investigators in many fields.

A second priority established five years ago was to improve the relationships between the

School and our affiliated hospitals—and, we hope, to foster a spirit of greater collegiality and cooperation among the affiliates themselves. There will always be competition among institutions doing the same thing in the same place, and hospitals are no exception. But I am delighted to say that these proud, competitive institutions are collaborating in ways that many people would have been surprised to see just a few years ago.

Collaborations across the Harvard medical community have truly flourished amid the new spirit of cooperation. Let me give three examples. First, the Dana-Farber/Harvard Cancer Center, which brings together cancer researchers from many of our affiliates whose interests are similar, has become a powerhouse. In 2000, the center was awarded the largest National Cancer Institute comprehensive cancer center core grant in the country, about \$10 million a year for five years.

Collaborations across the Harvard medical community

The dean celebrates goals accomplished and spells out future challenges

Three Specialized Programs of Research Excellence have also been funded by grants from NCI, one in breast cancer, one in prostate cancer, and one in skin cancer. Several more of these SPORE grants are in various stages of the application process. Last year, for example, we moved the program in brain tumors to a full program status, and we have submitted an application for a SPORE grant in this area.

A second major inter-institutional initiative is the Harvard Center for Neurodegeneration and Repair. We were extraordinarily fortunate to receive a \$37.5 million gift from an anonymous Boston-based donor to establish a Harvard-wide collaboration to find treatments for neurodegenerative diseases. The center provides a venue for Quad-based scientists to collaborate with clinicians and basic scientists in seven of our affiliated institutions. It consists of five units, each focusing on a key aspect of neuroscience and neurology research targeted against such diseases as Alzheimer's, Parkinson's, Huntington's, and amyotrophic lateral sclerosis. A focus on translational research, brain imaging, molecular pathology, drug discovery, and bioinformatics has been initiated.

We are also bringing people together through the new Division of AIDS. Our scientists have made some of the most important advances against AIDS in the past 20 years, but until recently, they have not had a common institutional home within the School. The new division provides that home for the 165 faculty members who are engaged in basic or clinical research related to HIV and AIDS—a group that receives about \$75 million annually in sponsored research funds. Its leadership will rotate periodically among the participating institutions.

Another of my priorities has been to maintain the quality of our educational programs at the School. Training the next



generation of physicians is at the core of a medical school's mission. So it is troubling to tell you that of all the ambitious goals and dreams we are seeing realized every day in the Harvard medical community, it is our core educational mission that is most chronically compromised and placed in jeopardy—in particular, the clinical training of our third- and fourth-year students.

The reasons are apparent to anyone who has observed the changes in the American health care system in recent years. Hospitals are losing money and are being driven to keep an ever-keener eye on the bottom line. Physicians are working at an ever more frantic pace to generate revenues for the hospitals. And as a result, medical student training is too often pushed to the margins.

At Harvard Medical School, the huge number of physicians on our faculty would seem to offer a more than ample pool of experienced and distinguished teachers. But unfortunately, even those doctors who place a high value on teaching are being squeezed by the economic straits that today's hospitals find themselves in. Physicians find that they have less and less time to devote to the role of teacher, let alone mentor.

Our health care system has been irreversibly changed in recent years by the explosion of biomedical knowledge and the technology boom in medical practice. Among the consequences of these changes are rapidly rising costs for clinical care and vastly increased public and private research funding. But one thing we are not seeing is an increased investment in education. And it is the students who are threatened most—the bright young people who come to

have truly flourished amid the new spirit of cooperation.

We need to change our educational paradigm to match the

Harvard Medical School confident that they will receive the best possible medical education. When it comes to the crucial clinical years, they too often get the message that they are spare parts—that the system has no time to accommodate their urgent need for learning.

However—lest I strike too pessimistic a note—let me tell you that the leaders of Harvard Medical School, including both the administration and key members of the teaching faculty, have for a long time been acutely aware of—and deeply concerned about—the problems facing medical education. We know that these problems demand active and creative solutions.

Under the leadership of Daniel Lowenstein '83, outgoing dean for medical education, we convened two "Blue Sky" committees that have worked over the past year to evaluate our medical education program. The strengths the committees identified are qualities that would be the envy of any medical school. I quote from Dan Lowenstein's summary of the findings: "Unrivaled access to the best young people in the world; a successful selection process that admits an exceptionally talented and diverse student body; a faculty unparalleled in its breadth and depth of abilities and accomplishments; an outstanding, dedicated staff that ascribes to extremely high standards of excellence; enormous resources including our endowment, buildings, and technology infrastructure; affiliations with some of the best teaching hospitals in the world; excellent curricula in the first two years, in both the New Pathway and the Health Sciences and Technology pathway"; and finally—critical for making progress—"a willing leadership."

The committees, however, also identified major weaknesses. Leading the list is "the inability of faculty to find supported time to teach, advise, and mentor." Related issues include marginalization of students in the clinical setting, a lack of coherence in clinical education, insufficient emphasis on the tempo of disease and treatment over time, and limited training in important aspects of medicine, such as decision making, critical thinking, prevention, culturally competent care, and leadership skills. The committees also noted a failure of the tutorial system—the problem-based learning for which we are so well known—to evolve in a timely way within the curriculum.

Where Dan Lowenstein's legacy will be most strongly felt is in a major new initiative that will play a central role in our plans to fix what's wrong with our medical education program: The Academy of medical educators at Harvard

Medical School. The Academy's goals are to create a community of educational scholars and a crucible for educational innovation, and to develop new resources to support medical education, including recognizing and rewarding faculty teachers through promotion.

In February of this year, we held an inaugural celebration to honor the 141 initial members of the Academy. The membership is drawn from all levels of the faculty—with assistant, associate, and full professors in almost equal numbers—and also includes students and clinical fellows. Members come from the Medical and Dental Schools and from nearly all the clinical affiliates. These members were

selected for their excellence as teachers and for having made significant contributions in curriculum development, educational leadership and administration, faculty development and mentorship, or educational scholarship.

Other key goals include improving the skills of our educators—not only Academy members, but also all teaching faculty—and to enhance the visibility, prominence, and professional satisfaction of educators. Toward these ends, we have a Medical Education Day planned for the fall, and we will be planning a variety of Academy-sponsored seminars and faculty development programs.

To return to the Blue Sky committees' findings, in addition to the crisis in clinical teaching, another troubling and growing problem they identified is student debt. Seventy percent of HMS students receive financial aid, and their

GRATEFUL MED:
During Alumni Day, Dean Joseph Martin acknowledged the decades-long relationship between Arthur Sparr's drugstore and HMS.



changes that have occurred in the practice of medicine.

average debt upon graduation is \$81,000. Thirty percent come with resources adequate to embrace the costs. In last year's graduating class, 30 students incurred debts of at least \$100,000 and 12 owed more than \$140,000. The rising costs of medical education, combined with declining salary levels for new physicians, have created a precarious financial situation that threatens to force students to make choices based on financial constraints rather than on the pursuit of excellence. These financial considerations often dictate students' career paths after graduation, and may make it difficult or impossible for them to pursue options, such as research, for which they may have talent and passion, but which do not pay enough to repay their debts.

We are implementing a variety of solutions that we hope will ease these burdens. The School's financial aid committee is working to keep down indebtedness by eliminating market-rate interest-bearing loans from the unit loan package, reducing the interest rate on HMS institutional loans from 9 percent to 7 percent, providing a \$20,000 subsidized loan package to students with financial need, and placing a cap on the amount of home equity considered in need calculations.

In addition, Daniel Federman '53, our senior dean for alumni relations and clinical teaching, is heading a campaign to raise scholarship money. The campaign has already raised \$18 million of its current \$35 million goal. We know even this target is insufficient—we must do more.

As you can see, we are striving to address as aggressively as possible two of the most serious problems facing our program in medical education today: student debt and the crisis in clinical teaching. But what about the parts of the program that aren't broken—for instance, the first- and second-year curricula?

Fifteen years ago, when the New Pathway in Medical Education was implemented, it was embraced as a revolutionary approach that would turn medical students into more active participants in their own education. It was widely praised and widely imitated—and rightly so. The New Pathway has in most respects proven to be an apt and durable model for the teaching of medicine.

But we have more work to do. Broadly, our aim is to continue Harvard Medical School's leadership in educational change that began with the New Pathway and the equally innovative Health Sciences and Technology pathway. We want to position the School at the forefront of the next wave of creativity in medical education. We need to change our educational paradigm to match the changes that have occurred in the practice of medicine. As Dan Lowenstein has put it, we are working toward the *new New Pathway*.

To fulfill this mission, Harvard Medical School faculty are exploring the creation of an entirely new educational program that is designed to attract the most talented students from throughout the country and beyond: students who are highly intelligent, mature, compassionate, altruistic, and deeply committed to learning the art and science of medicine. We want to take these students and guide and nurture their development into physicians who are competent, empathetic, responsible, and intellectually curious scholars and leaders in medicine.

The goal is to provide a broad medical education that fosters professionalism, lifelong learning, communication, teamwork, management and leadership skills, cultural competence, and personal growth. To accomplish this, individual students will be encouraged to develop proficiency in specific, clearly defined areas of competence, and will be evaluated in these areas at regular intervals throughout medical school. The program might, for example, encourage advanced studies in one of four thematic areas, or advanced independent study across disciplines.

We will re-emphasize a holistic approach to the care of the patient through core clinical courses that are longitudinal, multidisciplinary, and patient-centered, and that incorporate a wide array of clinical settings. And we will foster the development of close mentoring and advising relationships between students and experienced faculty members who are dedicated to their well-being and career development.

I want to conclude by commenting on the single concern most commonly expressed by the alumni who responded to our survey: the issue of the growing failure of America's health care system, its impact on the practice of medicine, and the role the School ought to have in addressing these concerns.

I, too, am pessimistic about the future of the health care system, but I strongly believe that meaningful change will occur first at the state level. Although there is no national passion to adopt a new government-sponsored, single-payer social insurance program, there is hope at the state level. There are models to be explored, as recommended in a recent National Academy of Sciences report.

While I do not believe that the Harvard bully pulpit will change things in Washington, I do believe that we can influence what happens here in Massachusetts—just as you can influence what happens within each of your states.

I feel privileged to have been called to serve as your dean. Your support is greatly appreciated, and all of your comments and suggestions are welcome. ■

Joseph B. Martin, MD, PhD, is the dean of Harvard Medical School.



Reunion

1942



60th—1942 Oglesby Paul The Class of 1942 began its 60th reunion on Thursday evening with a reception and dinner at the St. Botolph Club on Commonwealth Avenue, with 33 alumni and guests in attendance. On Friday, Alumni Day events in the big tent erected on the Quadrangle proved somewhat uncomfortable, as the weather was both wet and cold. It was to the credit of the alumni and their families that so many sat through the three-and-a-half-hour program.

Highlights were an expert panel on terrorism and the report of Dean Joseph Martin, who gave an admirable summary of the experiences of the past five years at the School. This was an upbeat talk with the exception of his concerns that medical education was not yet at a completely satisfactory level. At the end, the presidency of the Alumni Association passed from Paul Davis '63 to Mitchell Rabkin '55. A buffet lunch followed in the tent, together with photographs of the reunion class. In the afternoon, tours of Countway Library were available, as well as an update on the Harvard-MIT Division of Health Sciences and Technology.

On Friday evening, 29 alumni and guests enjoyed a dinner at the Faculty Room in Gordon Hall. With the exception of the weather, all went well (perhaps one should say swimmingly) with this large and complicated operation. ■

PHOTO BY CARLTON KATZ



1947

55th—1947 William Porell Forty-five of the 101 living members of the Class of 1947 returned to the Medical School for our 55th reunion. We presumed to look and feel much as we did five years ago, and certainly retained every bit as much enthusiasm, which even the rare raw weather could not dampen.

Thursday evening dinner at Maison Robert lived up to Hermes's promises: excellent gourmet fare well served, and plenty of room to congregate and talk. Regrettably absent for health reasons were class officers Myron Sandifer and Jim Davis. We missed them and wished them well. After a few moments of silence for departed classmates, Sandy's letter, a heartfelt paean to class and school, was read by John Duggan, and Cheves McCord Smythe gave an impromptu review of the 55th class report. Notables in the report were the endorsements for a national single-payer insurance plan, especially from classmates with names from S through Z, and little disillusionment with medicine as a profession. Three widows graced us with their presence: Phyl Billings, Mary Lee Ingbar, and Ruth Carson.

The highlights of Alumni Day, Friday morning, were Mort Swartz's scholarly

report on anthrax, Dean Joseph Martin's annual report, and the incredibly cold weather, which even the charm of Dan Federman '53 could not mitigate.

Black Point Inn, scene of our weekend retreat, provided an excellent gathering space for sharing war stories. Its rustic ambience provided us with several points of interest, most notably the Winslow Homer Museum. Friday dinner ended with personal accounts from the podium by Charlie Minor (on reading to children and gardening), Betsy and Don Minkler (on his Alzheimer's), Charlie Lasley (on his book on longevity), Paul Dale (sailing, anyone?), and Jim Johnston (tennis, anyone?).

Saturday morning, the flaming wheel of Phoebe's cart was turning again (courtesy of Fritz Irving), bringing welcomed warmth. That night, at the lobster bake, the Improbable Sextet (Waring, Zufall, Spiro, Minor, Spear, and Baldwin) led a songfest of '47 classics, both naughty and nice, with Waring supplying forgotten lyrics. Hang on to your copies, they're precious.

Many thanks are due chair John Duggan for adroit navigating, Jim Shannon for shouldering the dyspeptic burden of finance, and Nate Brackett for skillful editing of the class report. ■

1952

50th—1952 William Cochran This summation is really for all of you who did *not* attend our 50th. We attendees will remember the three days of our reunion with, I hope, a camaraderie that comes only with the reconnecting of “forgotten” classmates, as well as the re-cementing of old friendships. The Class of ’52, though a much more homogeneous group than the more recent classes, is still an eclectic bunch.

There are 105 of us alive, but time and again at our reunion (about 45 of us attending), I kept hearing questions about the missing. “Where is Costanzo?” “Have you heard from Lundborg?” “How come Coleman’s not here?” “Have you heard from Cummings, Gordon, Hancock, Katz?”—and on and on. That litany was too long. We missed you all, though we did have the pleasure of Debbie Senft and Marion Ryan joining us.

It was classic New England weather: raining hard the first evening, then rain

and freezing weather continuing for Friday’s Alumni Day festivities on the Quadrangle, finally clearing and cold for the tented buffet dinner at John Constable’s beautiful homesite Friday evening. Saturday, a gorgeous sunny day for a harbor cruise—including a check on Old Ironsides to be sure she was still afloat (she was)—finished it off for most of those who came. Through Neil Thorlakson’s ministrations, 15 of us spilled over into a Sunday morning breakfast at the Harvard Club for a three-hour “let’s just sit and talk” that was as good as everything else (thanks, Neil).

Led by Roy Grinker’s extremely generous gift to the Alumni Fund as well as other very generous classmates, we proudly presented the dean with our “50th” gift, getting a great record of almost 75 percent participation. I thank you all for that.

Let me hear from those who missed it all but yearn for more details. ■



1957

45th—1957 Peter M. Yurchak It was a dark and stormy night when 81 members of the Class of 1957 and their spouses gathered at the Algonquin Club for cocktails and dinner. The atmosphere was congenial, collegial, and low-keyed. Conversations took up as if they had broken off only yesterday, instead of five years ago. There were no speeches. The party broke up after three hours, as couples drifted away.

Some returned to the Quadrangle the next day to face the unpredictable rigors of "Indian Winter" beneath the big tent. Some 38 class members, most with spouses, showed up for the class photograph, blowing on their hands and shivering under parkas. "It was déjà vu all over again," as Yogi Berra has observed, reminiscent of the Arctic conditions of the 40th reunion. But no one required treatment for hypothermia.

Dean Daniel Federman '53 cheered us with the disclosure that the 500-seat amphitheater in the new research building will soon render such exercises in applied masochism a thing of the past. At

the Friday presentation we were regaled with thoughts and reflections on terrorism and health policy (including pithy remarks by class member Victor Sidel), and by Dean Joseph Martin's "State of the School" address.

Cheery afternoon sunlight lighted our way back to the Stage Neck Inn in York Beach, Maine, scene of our week-end sojourns in 1982 and 1997. Some 70 of the class, and spouses, gathered for cocktails and dinner. Thirty-two of the class gathered on Saturday morning for the second quinquennial symposium on "Medicine Today." A variety of insightful comments were offered. The full transcript will be sent to class members and to the dean himself.

The rest of Saturday was taken up by the customary three S's of reunions: schmoozing, shopping, and sightseeing. An old-fashioned New England clam-bake rounded out the scheduled gatherings. We headed homeward on Sunday, refreshed by the meeting with old friends, and looking forward to our 50th reunion. ■





1962

40th—1962 Samuel H. Kim Despite the inclement weather that tried in vain to dampen the reunion week at HMS, our class fared well in attendance and activities. The reunion began on Wednesday evening with a reception at the Kims' for 62 classmates and spouses. Fortunately the rain held briefly and an enthusiastic group stayed well into the evening.

On Thursday, many of the class attended the scientific symposium and graduation in the Quad during a wet and raw day. That evening, we gathered 66 strong at the Bay Tower Room. Once again the evening went well overtime, highlighted by remarks by the funnier-than-ever Bill Donahue and the presentation of an appreciated (by me) appreciation gift from the class.

On Friday, many of the class braved the cold and wet for the Alumni Day program, class picture, and luncheon. Then, 45 of the class retreated to the Ocean Edge Resort on the Cape for the week-

end. This was highlighted on Saturday by Bill Donahue losing and Ted Harris winning on the golf course and a clam bake on Saturday evening.

We were delighted to see Rob Deane, Gary Noble, and their spouses, who have never returned for a reunion (I think). This gives hope to the reunion committee that others will have a change of heart and return.

At our ages of about 70 by our 45th, with fewer competing distractions, if you do not plan now and show up—according to Woody Allen, 80 percent of success is showing up—we will take your absence especially sadly and personally.

With the afterglow of a fun time, which included various events, 48 classmates reconnecting with each other, and the sad realization that we had lost several of our classmates since the last reunion (we are not immortal), we hope the “connected” will reach out to our “estranged” classmates and encourage them to come to the 45th. ■



1967

35th—1967 Thomas G. Gutheil The ever-legendary Class of 1967 enjoyed its 35th reunion this year with a gratifying turnout. In classic New England fashion, those of us who attended the graduation ceremonies—despite the June date, about which the calendar mendaciously assured us—were freezing our little glutes off. While the argle-bargle of the various luminaries who spoke receded quickly into the neurofibrillary swamp of our aging minds, the highlight was a formal recognition of Arthur Sparr, owner of the recently closed institution that played so much more of a role in our lives than any fleeting faculty contact. The sorrow of the end of that long era was somewhat alleviated by the nostalgic glow of “Sparr’s Medical School’s” fabulous performance in the Sexagonals (beating out

Stuft, G.U., and Johns Droppings, among others); “It we can’t cure it, you don’t have it,” and “Rake those dollars into the till...”

Friday night, 58 grads enjoyed the super hospitality and predictable conviviality at the Donoffs—a fabulous fete. The next day, with improved weather conditions, 53 of us entered the sanctum of the St. Botolph Club to gorge on salmon or beef, seasoned with ‘67’s patented sharing of lives, families, reflections, and philosophies, a characteristically poignant, moving and, at times, hilarious experience. On an (at last) seasonally sunny Sunday afternoon, 27 tenacious souls basked in a great clambake and conversation at verdant Pine Manor College. On the horizon the big Four Oh looms with its dread and promise. Look forward, angels! ■

1972

30th—1972 Ann Bajart Braving horrendous traffic and torrential rain, 70 members and guests of the Class of 1972 congregated at the Harvard Faculty Club for a warm and cheerful cocktail party and reunion. We were graced by the presence of Dean Daniel Federman '53, who is an unofficial member of our class. Bill Chin presented a brief slide show revealing the demographics of the class. On average we have gained 10.1 pounds since graduation. Our personal happiness factor was a high 4.4 and our professional happiness was 4.1 on a scale of 5.0.

Cold weather, wind, and more rain did not dampen the enthusiasm of the HMS '72 members who met for the Alumni Day lunch and class photo. Thirty-

two class members, friends, and families then headed Down East for the Cliff House in York, Maine, where we had spectacular views of pounding ocean surf. As if by directorial design, the clouds and rain disappeared. Saturday was a beautiful 70-degree day, perfect for walking and shopping. Saturday evening we had an indoor Maine clambake, where more new friendships were forged. Our weekend culminated in a brunch overlooking the Atlantic. There were multiple suggestions of having annual mini-reunions as well as setting up an electronic bulletin board for HMS '72 classmates. We will look into that and be in touch. Our next formal reunion will be in five years. We are hoping to see everyone once again. ■



1977

25th—1977 Kwan Kew Lai Our 25th reunion has come and gone. We came from all over the States to reminisce about our past, to renew old friendships, to update one another about our current undertakings, to admire how each of us has grown old “gracefully,” and to express our hopes for the future. It was a poignant experience—25 years seems like a long time, and yet it seemed like yesterday when we gathered in the Quad and in the old Amphitheater E, where we shared many a time together during our first two years at HMS and HSDM.

Amphitheater E seems a lot smaller and cozier, the stairs are steeper, and I could almost imagine the various classmates who, in the days of yore, sat in their “special seats,” or next to their buddies and never changed places throughout our times together. There we received numerous lectures from numerous professors, all with their own senses of seriousness and humor.

Dr. Elio Raviola of the anatomy department was once greeted by a moving skeleton that politely extended a skeleton hand, much to his surprise and amusement. He was not shaken, however, and proceeded to give his lecture as though nothing out of the ordinary had happened. Once, a streaker streaked

through the front of the class without Dr. Raviola’s so much as batting an eye; the streaker will remain nameless.

In smaller groups, Dr. Anne Barnes of the gynecology department told us what she deemed the best and cheapest form of contraception: “To keep a penny between one’s knees.” The pathology department proudly presented their enlarged histologic pictures of various pathologic features and I imagined myself to be in an art gallery full of a huge display of beautiful artwork. And then the exhibit of “worms and creeping crawly things,” which made one lose one’s appetite for sushi or steak tartar.

There are many classmates from whom we did not hear, but I hope that it was a matter of procrastination that led to not writing, and not despondency. Some recounted disappointment and disillusion, yet many talked about the excitement of their work and how they have never dreamed of retirement. Many, many more expressed love for their families and talked of how they have received their families’ love and unconditional support throughout their careers. Indeed, many of us count our families among our many blessings. Despite our busy lives, many continue to find time to exercise and do other things outside of medicine.

Although we may have grown grayer, added more lines to our faces, and put on a few pounds, we seem to be more at ease with ourselves as we grow older. Some of us are very aware of our mortality and indeed some are confronting issues with their health, and yet there always seems to be hope for the future and a belief that whatever happens to us now will bring a newer light to our understanding of our lives on this earth.

I want to take this opportunity to wish all my classmates a wonderful and meaningful life and to remind you not to fail to take time to enjoy your loved ones. ■





1982

20th—1982 DeWayne Pursley The 20th reunion of the Class of 1982 was a wonderful and well attended event. A group of 80 met for cocktails and dinner Friday night at the Harvard Faculty Club. The reception room swelled with alumni right through the early calls for dinner—a clear marker of success. Many appeared to have committed the reunion report to memory prior to the engagement, and this allowed for the dispensing of many of the concrete reintroductions. Who would have anticipated that the pharmacology camel would be a precursor to the reunion report?

Regrettably, one of our favorite classmates, Laura Beth (LB) Sanders, was not in attendance. LB passed away on May 6, 2002, after a courageous four-year battle with ovarian cancer. A Princeton graduate, LB had completed her surgical residency at MGH and most recently was a senior surgeon at the Lahey Clinic. We were regaled by memories provided for her Lahey memorial by several of her

former classmates. Her term as one of the first women chief surgical residents, her “white trash” cookbook, her yellow Porsche, and her quick wit were components of several vignettes. We’ll miss her greatly.

Saturday was family day—45 adults and 33 children met at Weir’s Cove in Auburndale. Several classmates who were unable to make Alumni Day or the previous night’s events attended. A pickup basketball game, organized by the kids, was one of the day’s highlights. By the end of the day, we came away with the realization that we’re only young once and that Pcte DiBattiste’s inability to go to his right was not an ephemeral observation.

All in all, reunion week was a wonderful period of rediscovery and reacquaintance. We are forever grateful for the support of Jean Hurd and the Alumni Office staff for their guidance (and putting up with us). We all look forward to the quarter-century mark. ■

1987



15th—1987 Eliza Menninger The reunion for the Class of 1987 was filled with the four “F’s”—fun, frolicking, food, and, most importantly, friends. Only a couple of classmates were present for the chilly picture session on the Quad. The warmth began Friday evening with dinner at the Harvard Club. Rob Glassman was immediately surrounded by the women and Thomas Schuetz called to wish his best (or at least tried to reach Rob). The couples shared war stories on how many kids’ sports games they had attended over the past five years. Rick Gliklich and Eliza Menninger chuckled over Debbie Jacobs’s introducing them to their spouses. Debbie, recently listed as one of the top ophthalmologists in *Boston Magazine*, says her services are available free of charge. Crawford Campbell entertained the crowd with a rousing toast to the reunion.

Saturday brought picture perfect weather to make the pool party at Eliza Menninger’s a huge success. The kids went from being hot and sweaty in the “moonbounce” to being waterlogged in the pool. The adults gorged on clams and lobsters and best of all, conversation. Once again, Rick Born enjoyed two lobsters (as did many others).

Tim Koritz flew his own plane to the reunion and entertained the crowd with his own air show over the pool party

upon his departure. This was almost as good as his rendition of Lynne Reid in the Second Year Show. Okay, so I made this up, but we all waved at what we thought was his plane!

Ruthanne Simmons received many hugs to support her fight with metastatic breast cancer. (We were later deeply saddened to hear of Ruthanne’s death on November 8, 2002. To learn more about her life, visit www.ruthannesimmons.com.)

The main comment at the reunion was how everyone looked roughly the same as when they graduated, except now they had children ages 11 months to 11 years in tow. Laura Torres, unable to make it, sent an email to wish everyone the best. Chin-fee Chen retrieved the red sweatshirt left five years ago, but now we have a multi-colored beach towel in its place. I will hold it until the next reunion!

In all, our reunion was a glorious event enjoyed by all who attended. Many digital pictures were taken, and I will try to get them onto a web site. In the meantime, contact me at eliza.menninger@verizon.net if you want to view any. In looking over the reunion book, the most common remembrance from our medical school years was Jack Arbiser’s discovery of a teratoma in his cadaver. I always knew he’d find the “Arbiser granule”—just never thought he’d find it there! We look forward to seeing y’all at the 20th reunion, if not before. ■

1992

10th—1992 Tim Ferris A reunion can be an odd thing. Feelings of anxiety (do I look older? will I remember their names?) mix with excitement about seeing old friends. But after the initial tension, old patterns of conversation emerge and curiosity about different paths and lives are explored.

Attendees at the Friday dinner gathered around two large tables at the Elephant Walk in Brookline. It seemed everyone had changed very little, as if the same group had just walked out of tutorial and was standing around a table in the MEC. Conversation lingered on the recent news of decreased work in residency training. While most were proud of their residency efforts (plenty of nightmare stories to pass around), we also agreed that the residency training system could use some improvement. A little later in the evening the topic turned to politics. The conversation became more lively as differences in opin-

ion emerged. It seemed that the influence of politics on our lives is more apparent now than ten years ago, when we were trying to learn medication doses. Of course we were able to retreat to the relative safety of discussing the intricacies of digital photography (how many megapixels does your camera have?).

On Saturday a much larger group convened at the Marsh Post on the banks of the Charles River. We ate barbecue and watermelon under clear blue skies. The scene was remarkable for the number of children. The kids varied in size from newborns to early school age and could be seen sleeping in the shade, climbing on classmates, and kicking soccer balls. Another encouraging aspect of the class was the lack of corpulence (bucking the national trend). If Bogomoletz was right about satiety (avoiding it helps you live longer) then the Class of '92 will live on for many years to come. ■



5th—1997 Steven Kalkanis At times it seems almost impossible to believe that five years have passed since the mighty class of Schwann Lake took the Hippocratic oath, as we—and Deans Daniel Tosteson '48 and Edward Hundert '84—said farewell to HMS. Five years later, we returned as senior residents, fellows, and, for a lucky few, attendings in our chosen fields—but we were especially reminded of the special relationships and bonds forged during our years in the MEC and on the wards.

On June 7, more than 30 of us converged on the top floor of the Bay Tower Room in downtown Boston, with a mag-

nificent view of the city and an atmosphere of excitement and nostalgia. While many of us stayed in Boston for residency, the majority of those attending the reunion dinner came from other cities around the country. Exclamations of "It's the head!" and other Second Year Show memories were overheard amid Elio Raviola and Dan Goodenough impressions and old patient/doctor (horror) stories. Mostly, though, we were interested in hearing about everyone's diverse experiences in residency, our newest challenges of looking for jobs and adjusting to life in new cities and circumstances, and meeting new spouses and new additions to the family.

The following afternoon, many of those attending the reunion weekend gathered for a barbecue lunch and volleyball at Weir's Cove, a picnic and recreation retreat just outside of Boston. While as a class we have been transformed in the years since graduation into real doctors, we also share in the common fact that our fifth reunion marks a time of transition—professionally and personally. See you at the tenth, and I hope much sooner! ■

1997



Ministry and Medicine: Two Approaches to Healing

IN MAY 1992, A GANG BURST INTO the Morning Star Baptist Church in Mattapan, Massachusetts, during a funeral service, stabbing a youth from a rival gang nearly to death. It was one in a long line of violent confrontations in Boston's inner-city neighborhoods. The incident inspired Ray Hammond '75, a full-time doctor and part-time minister, and three other pastors to begin walking the streets of Boston on Friday nights, to reach out to traumatized and violent youth.

"I learned that there were young men who wanted to stop the violence and do something positive with their lives, but they didn't know how," Hammond says. "Some of them were even afraid to go to church, because in order to get there, they'd have to cross a rival gang's territory."

These nightly walks led Hammond and others to form the TenPoint Coalition, an ecumenical Christian organization working to tackle issues that affect Boston's black and Latino youth. All of the coalition's programs—from establishing crisis centers, to developing a church-based black and Latino history curriculum, to building linkages between churches—aim to eliminate violence and create an environment in which young people can be safe and productive.

As a part-time pastor at St. Paul's African Methodist Episcopal Church in Cambridge and cofounder of the Bethel African Methodist Episcopal Church, Hammond had long been involved in the ministry. But he was balancing this with a full-time career in emergency medicine. The same year as the Morning Star stabbing, he realized that his calling was to help people in his community by ministering to their spiritual, rather than medical, needs. He left a promising health care career to become the full-time pastor of Bethel AME.

Hammond's journey from ER doctor to church pastor may seem unusual to

some, but to Hammond it makes perfect sense. "I saw the ministry as a continuation of what I was doing in medicine," he explains. And in devoting himself to the ministry, Hammond didn't exactly leave his medical bag behind.

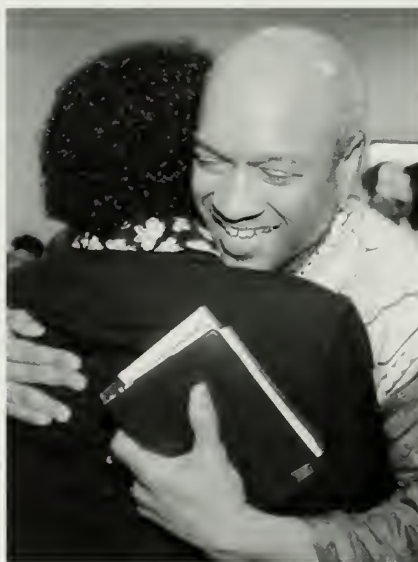
"My congregation will tell you that I often approach spiritual and social problems using a medical model," the soft-spoken Hammond says, smiling. "You can't just give me the diagnosis; I want to know the cause. What's the pathogenesis? What's the pathophysiology? I'm always asking about causes."

In his work with TenPoint, Hammond continues to investigate the challenges that inner-city youth confront. As the organization's president, Hammond is constantly striving to help Boston's youth by involving more people and

building more partnerships. In the past ten years, the coalition has been working on the international level, supporting struggling communities in Liberia, Ghana, Croatia, and the Philippines. Hammond's interest in global efforts springs naturally from his desire to get to the root of problems—or, in medical terms, to find the cause as well as treat the symptoms.

Along with many other Bethel AME members, Hammond is involved in The Foundation for African Relief, an organization that has helped establish an AIDS clinic in Kumasi, Ghana. Bethel AME members are also working on getting medical supplies and money to Ghana, and bringing African doctors to the United States for training. In addition, Hammond has taught religion and medi-

"Many people don't speak our language, and the other people. We have an obligation to figure out



BODY AND SOUL: Hammond uses both medical and spiritual knowledge to heal.

cine in Liberia, and has run a clinic in Ivory Coast.

TenPoint's global focus includes communicating with partner organizations in other cities abroad, including Bogota, Colombia; Hanover, East Germany; and Belfast, Ireland. "We're trying to intensify what we're doing locally but also think more and more globally," Hammond says. "These cities are dealing with high-risk kids, from boy soldiers to neo-Nazi skinheads. We're all trying to learn from each other."

Even as a medical student, Hammond knew the importance of maintaining a strong spiritual connection to others in the community. His wife, Gloria White-Hammond, also a doctor, shared his conviction. During the Hammonds' early, lean years, they received emotional and spiritual support from their church com-

munity at St. Paul's, where Hammond became a part time pastor in 1976.

The Hammonds also became involved in the Efficacy Institute, an effort designed to help minority students achieve academically in college and to lower dropout rates in inner-city high schools. Their work with high school students helped them understand how to heal psychological and social problems as well as physical ones. And these abilities were put to the test when they moved from Cambridge to the urban neighborhood of Mattapan in 1982, after the birth of their second daughter, Adiya. The move allowed Hammond to reconnect with the kind of neighborhood he had grown up in.

"We lived on a wonderful street, with great neighbors," he recalls. "But, like a lot of places, it was an island of tranquility



TWO MEDS ARE BETTER THAN ONE: Ray and Gloria White-Hammond

things that make a lot of sense to physicians often make very little sense to how to translate and how to be sympathetic to people's anxieties and concerns."

and neighborliness in a sea that could be a bit troubled. It was a real lesson to me about the kind of assets that are often present in those communities. Everyone focuses in on the troubles and the violence that might be there, but in fact those communities usually have some real strengths."

Excellent local churches were working to tap those strengths, but the Hammonds felt that there weren't enough of them—they saw the community as "spiritually underserved." They made a commitment to rectify that situation by establishing a church that would place strong importance on youth and community, but didn't get a chance to act on their resolution until 1988, when they moved to Roxbury, Massachusetts. The Bethel African Methodist Episcopal Church had its inception in the Hammonds' dining room, on the night of their 15th wedding

anniversary. In attendance were their elder daughter, Mariama, and two friends. But word quickly got around about the new church. Today, Bethel AME counts 300 members and sponsors numerous programs in the community.

Because of their connection to medicine, the Hammonds have attracted many health professionals to the church, now located in Jamaica Plain, Massachusetts. The result is a strong emphasis on health-related missions, including the establishment of clinics both at home and abroad. Church members who have medical skills and knowledge give their time to help other members deal with the health care system and to fill in the gaps between patients and doctors.

From his ER days, Hammond is all too familiar with those gaps. "We have to remember that not everyone lives in the

world that physicians live in," he says. "Many people don't speak our language, and the things that make a lot of sense to physicians often make very little sense to other people. We have an obligation to figure out how to translate and how to be sympathetic to people's anxieties and concerns."

Although he is now fully committed to his ministry, when he graduated from Harvard, Hammond says, "I really had the sense that medicine was my calling." At the time, a close friend and spiritual adviser gave him some invaluable advice. She told him not to lose sight of the fact that he was called not to a career in medicine, but to a ministry of healing. Clearly, Hammond never forgot her words. ■

Susan Cassidy is assistant editor of the Harvard Medical Alumni Bulletin.

Donald W. Bickley

1934 "After years of desultory writing, I have finally published a small book of mild humor, some history, many medical vignettes, and some tales of harsh reality. It is entitled *A Doctor's Scrapbook: From Boston to Santa Monica—and Beyond.*"

Richard W. Vilter

1937 "I am still working at the University of Cincinnati School of Medicine, with emeritus status."

John P. Hubbell, Jr.

'43B "We had a mini-reunion during graduation week with tea in Countway, and then a brunch at the Murrays—Joe Murray keeps busy traveling around the world and giving talks. I keep busy teaching rounds in the nurseries at Brigham and Women's Hospital, and singing in the Needham Retired Men's Glee Club."

Kingsley M. Stevens

1947 "After 29 years on Long Island, we have moved to my native state of Virginia to be closer to our four children, who live from Virginia south to Florida. Downsizing to a smaller house has been more difficult than expected."

P. H. Leiderman

1953 "My wife, who has a PhD in psychology, and I are enjoying our retirement from clinical obligations at Stanford, though we continue consultation activities for public and private agencies in mental health and the behavioral sciences. In May we celebrated the addition of a third MD to our family with the graduation

of our son from McGill University. (We have a daughter who received her MD from the University of Pennsylvania in 1982.) It was not easy to go through medical school again in my 70s. Now for internship and residency!"

Bruce B. Stoler

1954 "Peggy and I celebrated our 50th wedding anniversary on a trip to Eastern Europe."

Harold C. Urschel, Jr.

1955 "I have been honored with the H. Ross Perot Chair of Cardiovascular and Thoracic Surgical Research and Education at the Baylor University Medical Center. My wife, Elizabeth, is vice president of the Harvard Alumni Association."

Anthony Monaco

1956 has been awarded the Felix T. Rapaport Prize by Baskent University and the Turkish Transplantation Society. Monaco received the award for his pioneering work in experimental and clinical organ transplantation. He is the Peter Medawar Professor of Surgery at Beth Israel Deaconess Medical Center.

Allen W. Cheever

1958 "Our latest grandson, Thomas Allen Cheever Kresina, was born February 11, 2002, to our daughter Laura Cheever and her husband, Tom Kresina. Tomas, as he's known, is a gorgeous and vivacious baby whose first language will likely be Spanish."

Yeu-Tsu Margaret Lee

1961 "In September, I visited the teaching hospitals at Peking University for two weeks as an exchange professor of surgery from the University of Hawaii's Center for Chinese Studies. In addition to giving lectures about general and tumor surgeries, my major purpose was to learn first-hand how Chinese patients with breast and colon cancers are cared for. Since China has joined the World Trade Organization and will be hosting the 2008 Olympic Games, there will be many new and exciting developments there to watch. Aloha to all!"

Harold Dvorak

1962 was honored with the 2002 Rous-Whipple Award by the American Society for Investigative Pathology. The award is given to a pathologist over 50 who has had a distinguished research career and continues to contribute to the field. Dvorak is the Mallinckrodt Professor of Pathology and head of the Department of Pathology at Beth Israel Deaconess Medical Center.

George J. Ellis III

1963 "Having arrived at Duke University Medical Center in 1963 as a medical intern—against all advice from HMS—I have retired after 39



Harvard Medical Alumni Association

25 Shattuck Street

Boston, Massachusetts 02115

Change Service Requested

Non-Profit Organization

U.S. Postage PAID

Permit No. 52420

Boston, MA